# Auburn-Folsom Road Widening Project

From the Placer County Line North to Douglas Boulevard

## Environmental Assessment/ Draft Environmental Impact Report

*Volume 1 of 2*

Federal Lead Agency:
U.S. Bureau of Reclamation

State Lead Agency:
Placer County

*State Clearinghouse Number 2002042036*

*March 2003*

# Auburn-Folsom Road Widening Project

# Environmental Assessment/ Draft Environmental Impact Report

## *Volume 1 of 2*

*State Clearinghouse Number 2002042036*

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Placer County. 2003. Auburn-Folsom Road widening project environmental assessment/draft environmental impact report. March. (J&S 02-102.) Sacramento, CA. Environmental consultant: Jones & Stokes.

# Contents

**Note:** Technical modeling data for noise, hydrology, and traffic are bound separately due to their technical content. These data are available for review on a limited basis at the Placer County offices in Auburn and at the U.S. Department of the Interior, Bureau of Reclamation.

# Tables

# Figures

**Follows Page**

# Acronyms and Abbreviations

| | |
|---|---|
| A-LAC | Arterial—low access control |
| A-HAC | Arterial—high access control |
| ACHP | Advisory Council on Historic Preservation |
| ADT | average daily traffic |
| ARB | California Air Resources Board |
| | |
| BA | biological assessment |
| Basin Plans | Water Quality Control Plans |
| BMPs | best management practices |
| BO | biological opinion |
| Board | California State Geology and Mining Board |
| | |
| CAAAs | Clean Air Act Amendments of 1990 |
| Cal-EPA | California Environmental Protection Agency |
| California CAA | California Clean Air Act of 1988 |
| Caltrans | California Department of Transportation |
| CCR | California Code of Regulations |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFR | Code of Federal Regulations |
| cfs | cubic feet per second |
| CGS | California Geological Survey |
| CIP | Capital Improvement Program |
| CNDDB | California Natural Diversity Database |
| CNEL | Community noise equivalent level |
| CNPS | California Native Plant Society |
| CO | carbon monoxide |
| Corps | U.S. Army Corps of Engineers |
| County | Placer County |
| CRHR | California Register of Historical Resources |
| | |
| dB | decibel |
| dBA | A-Weighted Decibel |
| dbh | diameter at breast height |
| DFG | California Department of Fish and Game |
| DPR | California Department of Parks and Recreation |
| DPW | Department of Public Works |
| DRC | Development Review Committee |
| DSRC | Design/Site Review Committee |
| | |
| EA | environmental assessment |

| | |
|---|---|
| EA/EIR | Environmental Assessment/Environmental Impact Report |
| EIR | environmental impact report |
| EIS | environmental impact statement |
| EPA | U.S. Environmental Protection Agency |
| ESA | federal Endangered Species Act |
| | |
| FEMA | Federal Emergency Management Agency |
| FHWA | Federal Highway Administration |
| FIP | Federal Implementation Plan |
| FIRMs | Flood Insurance Rate Maps |
| FONSI | finding of no significant impact |
| FR | Federal Register |
| FTA | Federal Transit Administration |
| | |
| GPS | global positioning system |
| | |
| HCM | Highway Capacity Manual |
| HCP | habitat conservation plan |
| HEC | Hydraulic Engineering Center |
| hp | horsepower |
| Hz | Hertz |
| | |
| I-80 | Interstate 80 |
| ISA | International Society of Arboriculture |
| | |
| kph | kilometers per hour |
| | |
| LDM | Land Development Manual |
| $L_{dn}$ | Day-night level |
| $L_{eq}$ | Equivalent sound level |
| $L_{max}$ | Maximum sound level |
| $L_{min}$ | Minimum sound level |
| $L_{xx}$ | Percentile-exceeded sound level |
| | |
| MAC | Municipal Advisory Council |
| MBTA | Migratory Bird Treaty Act |
| MCAB | Mountain Counties Air Basin |
| MMIP | Mitigation Monitoring Implementation Plan |
| MOU | memorandum of understanding |
| mph | miles per hour |
| MTIP | Metropolitan Transportation Improvement Program |
| MTP | Metropolitan Transportation Plan |
| | |
| NAAQS | national ambient air quality standards |
| NAGPRA | Native American Grave Protection and Repatriation Act |
| NAHC | Native American Heritage Commission |
| NCCP | natural communities conservation plan |
| NEPA | National Environmental Policy Act |
| NFIP | National Flood Insurance Program |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |

| | |
|---|---|
| $NO_2$ | nitrogen dioxide |
| NOP | notice of preparation |
| $NO_x$ | oxides of nitrogen |
| NPDES | National Pollutant Discharge Elimination System |
| NRHP | National Register of Historic Places |
| NWPs | Nationwide Permits |
| | |
| OAP | Ozone Attainment Plan |
| OGAC | Open-Graded Asphalt Concrete |
| OHWM | ordinary high-water mark |
| | |
| PCAPCD | Placer County Air Pollution Control District |
| PCFCWCD | Placer County Flood Control and Water Conservation District |
| PG&E | Pacific Gas and Electric Company |
| Plan | Dry Creek Watershed Flood Control Plan |
| PM10 | particulate matter 10 microns or less in diameter |
| Porter-Cologne Act | Porter-Cologne Water Quality Control Act of 1969 |
| ppd | pounds per day |
| ppm | parts per million |
| psi | pounds per square inch |
| | |
| RAS | River Analysis System |
| Reclamation | U.S. Department of the Interior, Bureau of Reclamation |
| ROG | reactive organic gases |
| RTP | Regional Transportation Plan |
| RV | recreational vehicle |
| RWQCB | Regional Water Quality Control Board |
| | |
| SACOG | Sacramento Area Council of Governments |
| SCS | U.S. Soil Conservation Service |
| SCWA | Sacramento County Water Agency |
| SHPO | State Historic Preservation Officer |
| SIP | State Implementation Plan |
| SMAQMD | Sacramento Metropolitan Air Quality Management District |
| $SO_2$ | sulfur dioxide |
| $SO_x$ | oxides of sulfur |
| SRA | State Recreation Area |
| SVAB | Sacramento Valley Air Basin |
| RWQCB | Regional Water Quality Control Board |
| SWPPP | Storm Water Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| | |
| TCMs | transportation control measures |
| TCPs | traditional cultural properties |
| TIP | Transportation Improvement Program |
| TMDL | Total Maximum Daily Load |
| TRB | Transportation Research Board |
| | |
| USBM | U.S. Bureau of Mines |
| USC | United States Code |
| USFWS | U.S. Fish and Wildlife Service |

| | |
|---|---|
| USGS | U.S. Geological Survey |
| V/C | volume to capacity ratio |
| VEEs | Visible Emission Evaluations |
| VELB | valley elderberry longhorn beetle |
| vpd | vehicles per day |
| WDR | Waste Discharge Requirements |
| WHR | Wildlife Habitat Relationships |
| $\mu g/m^3$ | micrograms per cubic meter |

# Executive Summary

## Introduction

This executive summary presents a summary of the Environmental Assessment/Draft Environmental Impact Report (EA/Draft EIR) for the Auburn-Folsom Road widening project. This executive summary identifies the purpose of the EA/Draft EIR, provides an overview of the proposed project and project alternatives, and identifies the impacts and mitigation measures of the project and each alternative. This summary also presents other conclusions required by the California Environmental Quality Act (CEQA); the State CEQA Guidelines, Sections 15123 and 15126; the National Environmental Policy Act (NEPA); and the Council on Environmental Quality's Regulations for Implementing NEPA Sections 1501.3 and 1506.5(a)(b). This summary is intended as an overview and should be used in conjunction with a thorough reading of the environmental document.

The project evaluated in this EA/Draft EIR is the widening of Auburn-Folsom Road in Placer County from two to four lanes to meet existing and projected traffic demands through 2020, as described in the Capital Improvement Program.

## Purpose of the EA/Draft EIR

### General Requirements

The purpose of this EA/Draft EIR is to analyze the environmental effects of Placer County's proposed project, to indicate ways to reduce or avoid potential environmental impacts resulting from the proposed project, and to identify alternatives to the proposed project that could reduce or avoid those environmental impacts while meeting the objectives of the project.

CEQA requires all state and local government agencies to consider the environmental consequences of projects over which they have discretionary authority and requires each public agency to mitigate or avoid, to the extent feasible, the significant environmental effects of projects it approves or implements before taking action on those projects.

NEPA establishes a national environmental policy that makes it the continuing responsibility of the federal government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate federal plans, functions, programs, and resources to the end that the nation may assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings and attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences. In meeting the requirements of NEPA, government agencies must share with the public and other agencies the results of their analysis of the effects of projects on the environment.

# Project Overview

The project area is located in southeast Placer County, with Folsom Lake immediately to the east and the City of Folsom to the south. The project limits extend from the Placer County/Sacramento County line north to Douglas Boulevard, a distance of approximately 3.2 kilometers (2.0 miles).

Placer County proposes to widen Auburn-Folsom Road from two to four lanes. South of the project limits, the City of Folsom is widening Folsom-Auburn Road from two to four lanes. Placer County's proposed Auburn-Folsom Road Widening Project would ultimately match the City of Folsom's widened roadway to the south, and would continue the widened road to Douglas Boulevard.

Placer County has performed preliminary engineering and design studies on four alternatives that best meet the objectives of the proposed project. The following four alternatives are analyzed at an equal level of detail in this EA/Draft EIR.

- Alternative 1: Widen Roadway to the West
- Alternative 2: Widen Roadway to the East
- Alternative 3: Widen Roadway Equally on Both Sides
- Alternative 4: County DPW-Preferred Alternative

## Project Objectives

Placer County has determined that there is a critical need to increase the roadway's capacity to serve the existing traffic circulation needs of the Granite Bay community, and to accommodate projected rapid increases in commuter traffic volumes on Auburn-Folsom Road, from the Placer County/Sacramento County line north to Douglas Boulevard.

The average daily traffic volumes on the project segment of Auburn-Folsom Road ranges from approximately 28,300 to 28,900 vehicles per day, and the segment is rated level of service (LOS) F. In accordance with the Granite Bay Community Plan, a rating of LOS D or worse is considered unacceptable. (Note:

LOS is a term used to describe the quality of traffic operations on a roadway or at an intersection. Letters ranging from A to F denote levels of service, with LOS A describing free-flowing conditions with minimal vehicular delay and LOS F representing severe congestion that results in significant delays for motorists.)

By 2020, average daily traffic volumes are expected to increase to approximately 31,500–43,500 vehicles per day. The peak traffic periods and associated congestion and delays will last longer, and the level of service is anticipated to remain unacceptable (LOS F) without the proposed improvements.

According to traffic modeling results, the proposed project would improve existing traffic conditions to LOS C.

Traffic modeling of "Future Plus Project" conditions shows that level of service would be improved from LOS F to LOS D between the County line and Oak Hill Drive and between Lou Place and Fuller Drive. Between Oak Hill Drive and Lou Place, level of service would be improved to LOS E.

The proposed action would address the following objectives:

- Maintain LOS C, as required by the Granite Bay Community Plan.
- Accommodate local and regional traffic volumes through 2020.
- Improve safety along the Auburn-Folsom Road corridor by:
  - widening the roadway from two to four lanes;
  - signalizing the Fuller Drive intersection and improving the intersection's geometry to address the long delay experienced by drivers on the Fuller Drive approach and to increase safety for pedestrians, including students who attend Wilma E. Cavitt Junior High School to the east of the intersection;
  - improving the vertical sight distance along a portion of Eureka Road west of Auburn-Folsom Road to allow safe use of an existing driveway;
  - adding medians and left-turn lanes; and
  - improving Auburn-Folsom Road's horizontal and vertical alignment.
- Construct a bicycle lane along Auburn-Folsom Road, as identified as the Priority No. 1 Trails project in the Granite Bay Community Plan Recreation Element, adopted by the Board of Supervisors in 1987.

# Proposed Improvements Common to All Build Alternatives

The proposed action would widen Auburn-Folsom Road from two lanes to four lanes from the Placer/Sacramento County line to Douglas Boulevard. The road widening would generally follow the existing alignment. Improvements proposed include

- adding a travel lane in each direction, resulting in four 3.6-meter-wide (12-foot-wide) travel lanes;
- adding a 4.2-meter-wide (14-foot-wide) center lane that may include two-way left-turn lanes and/or raised or painted medians in many or all roadway segments;
- providing 1.8-meter-wide (6-foot-wide) shoulders with Class II bicycle lanes on each side of the road;
- redesigning the horizontal and vertical curve north of Lou Place to improve the sight distance to achieve a design speed of 88 kilometers per hour (kph) (55 miles per hour [mph]) (Alternatives 1, 2, and 3) or a design speed of 80 kph (50 mph) (Alternative 4);
- installing curb, gutter, and sidewalk at certain locations;
- constructing/improving a multi-use/equestrian trail on the west side of Auburn-Folsom Road, from the Baldwin Reservoir access road to the Oak Hill Drive intersection;
- constructing a new traffic signal at the Fuller Road intersection;
- improving traffic signal operations at the Eureka Road and Oak Hill Drive intersections;
- restriping Auburn-Folsom Road between Fuller Drive and Douglas Boulevard to accommodate the alignment of Auburn-Folsom Road south of Fuller Drive; and
- implementing sight-distance improvements along Eureka Road approximately 300 meters (980 feet) west of the Auburn-Folsom Road/Eureka Road intersection. Approximately 190 meters (620 feet) would be lowered by approximately 1 meter (3 feet) to improve the vertical sight distance along this portion of Eureka Road. This improvement would allow residents of the Ridgeview Mobile Home Park to use the Eureka Road driveway, which is currently gated.

In addition to these improvements, the County may need to replace or move the entrance sign to Beal's Point and fencing along the SRA. The California Department of Parks and Recreation (DPR) has requested that the County install "no parking" signs on the shoulder of Auburn-Folsom Road and consider assisting State Parks and Reclamation with replacement of the existing t-post and wire fence along the road to improve the visual quality of the corridor (Nakaji pers. comm.).

# Project Information Common to All Build Alternatives

The following information is common to all build alternatives.

- Each of the build alternatives includes construction of a 4.2-meter-wide (14-foot-wide) median. The median will be designed either as a two-way left-turn lane or a painted and/or raised median. It is possible that the design of the median will vary along the project length.

- Three possible temporary construction staging/storage areas have been identified along the project length; one at the south end and two at the north end.
- The anticipated construction schedule is to start construction in 2004–2005. It is anticipated that the project would require 18 months over two construction seasons to construct.
- Placer County will need to acquire some right-of-way along the project alignment. Right-of-way would be acquired under the Uniform Relocation Assistance and Real Property Acquisition Policies Act.

## Raised Median Design Option

The County also has identified a raised median design option that consists of the installation of a raised median on Auburn-Folsom Road from Douglas Boulevard to the County line with median openings for left-turns at Boardwalk Drive, Fuller Drive, Eureka Road, Country Court, Lou Place, and Oak Hill Drive. Left turns at other locations, such as Fallsbrook Court, would be eliminated. The raised median design project option is assumed to allow for U-turns only at the signalized intersections on Auburn-Folsom Road. All other project design information for the raised median design option is the same as identified above.

As described in detail in Chapter 3, all intersections would operate at the same LOS with either the project (widening the road) or the raised median project option. The overall intersection delay with the raised median project option would increase at the Auburn-Folsom Road/Fuller Drive, Auburn-Folsom Road/Eureka Road, and Auburn-Folsom Road/Oak Hill Drive intersections compared to the project scenario (widening the road) because of the U-turns that would result from the installation of a raised median, but the levels of service will remain unchanged from "project" conditions. The overall intersection delay will decrease at the Auburn-Folsom Road/Douglas Boulevard intersection, and the worst-case movement and overall intersection delay at the Auburn-Folsom Road/Fallsbrook Court intersection would decrease because left turns would be eliminated at this location.

Queue lengths for each turning movement at the study intersections have been calculated as part of the technical analysis and are included in Appendix P. The raised median project option design shall incorporate turn-pocket lengths that accommodate the projected queues.

# Description of Alternatives

In accordance with State CEQA Guidelines, Section 15126(d), a Draft EIR must describe a range of reasonable alternatives to the proposed project or to its location that could feasibly attain the project's basic objectives and reduce impacts of the project. The purpose of the proposed project is to increase the capacity of this route to meet existing and projected traffic demands through 2020. Placer County has chosen to review four project alternatives at an equal level of detail.

In addition, this report evaluates the potential impacts of the No-Build (also known as No-Project or No-Action) Alternative. The four build alternatives and the No-Build Alternative are described below. The selection of the preferred alternative will take place after the environmental review and public input process is complete. The final alignment will consist of portions of the proposed alternatives. Preliminary design drawings of Alternatives 1–4 are included in Appendix A.

## Alternative 1: Widen Roadway to the West

Alternative 1 proposes to widen Auburn-Folsom Road to the west. The existing southbound and northbound travel lanes would become northbound lanes under this alternative. A median/two-way left-turn lane and two southbound lanes would be added to the west. Both the horizontal and vertical elements of the curve north of Lou Place would be redesigned to achieve a design speed of 88 kph (55 mph). The volume of material to be excavated under Alternative 1 is 65,200 cubic meters (85,278 cubic yards). Approximately 2.06 hectares (5.10 acres) of land would need to be acquired from portions of 35 parcels, with an estimated 6.5% of the needed area coming from the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) land. The total estimated project cost of this alternative is $9,950,000.

## Alternative 2: Widen Roadway to the East

Alternative 2 proposes to widen Auburn-Folsom Road to the east. The existing southbound and northbound travel lanes would become southbound lanes under this alternative. A median/two-way left-turn lane and two northbound lanes would be added to the east. Both the horizontal and vertical elements of the curve north of Lou Place would be redesigned to achieve a design speed of 88 kph (55 mph). The volume of material to be excavated under Alternative 2 is 83,300 cubic meters (108,952 cubic yards). Approximately 2.21 hectares (5.45 acres) of land would need to be acquired from portions of 9 parcels, with an estimated 57% of the needed area coming from Reclamation land. The total estimated project cost of this alternative is $10,775,000.

## Alternative 3: Widen Roadway Equally on Both Sides

Alternative 3 proposes to widen Auburn-Folsom Road equally on both sides. The existing southbound and northbound travel lanes would become the median and center lanes under this alternative. Structural roadway sections would be added to both sides of the existing pavement. Both the horizontal and vertical elements of the curve north of Lou Place would be redesigned to achieve a design speed of 88 kph (55 mph). The volume of material to be excavated under Alternative 3 is 72,100 cubic meters (94,303 cubic yards). Approximately 1.15 hectares (2.83 acres) of land would need to be acquired from portions of 21 parcels, with an estimated 19% of the needed area coming from Reclamation land. The total estimated project cost of this alternative is $9,819,000.

## Alternative 4: County DPW–Preferred Alternative

The Placer County Department of Public Works (DPW) developed Alternative 4 based on input received from the public, a detailed review of the positive and negative impacts of each of the three original alternatives, and initial data results from the environmental studies conducted during the environmental review step of the project development process. The intent of the County was to develop an alternative that minimized the negative impacts of the three original alternatives while maintaining the original project goals and objectives. The impacts were reduced by adjusting the alignment at various locations along the proposed route.

Alternative 4 includes all the proposed roadway capacity improvements described for Alternatives 1, 2, and 3, with the exception that the design speed of the curve just north of Lou Place is reduced from 88 kph (55 mph) (used for Alternatives 1, 2, and 3) to 80 kph (50 mph). This change in design speed reduces the size of the lateral cut and fill slopes.

Alternative 4 is primarily a combination of Alternatives 2 and 3. Alternative 4 would widen Auburn-Folsom Road to the east of the existing alignment, starting at the Placer County line, and would transition to widening equally on both sides near the Auburn-Folsom Road/Oak Hill Drive/Beal's Point intersection. From just north of Oak Hill Drive to Lou Place, the alignment transitions to an easterly widening, then back to widening equally on both sides at the major cut just north of Lou Place. Between the cut north of Lou Place and Country Court, the alignment again transitions to widening to the east, then back again to widening equally on both sides to reduce impacts on the Linda Creek wetland area. North of Country Court, the alignment slowly transitions easterly again to the Auburn-Folsom Road/Eureka Road intersection, then stays to the east to match the existing Auburn-Folsom Road/Fuller Drive intersection.

The Alternative 4 preliminary design plans include the installation of retaining walls as a design option to reduce the size of the cut-and-fill slopes at many locations. The cost estimate and right-of-way needs, however, are based on the scenario without retaining walls.

The volume of material to be excavated under Alternative 4 is 62,900 cubic meters (82,270 cubic yards). Approximately 1.25 hectares (3.09 acres) of land would need to be acquired from portions of 10 parcels, with an estimated 33% of the needed area coming from Reclamation land. The total estimated project cost of this alternative is $9,320,000.

## Impacts of the Proposed Project

The potential environmental impacts that would result from implementation of the proposed project are summarized in Table ES-1. In some cases, impacts that have been identified would be less than significant. In other cases, mitigation measures that have been proposed by the County DPW would reduce the impacts to a less-than-significant level. Additional mitigation measures may be recommended during the environmental review process to reduce impacts to a less-than-significant level, where feasible. Finally, those impacts that cannot be mitigated to a less-than-significant level would remain as significant and unavoidable impacts, as shown in Table ES-1.

# Other CEQA-Related Impact Conclusions

## Cumulative Impacts

Section 15130 of the State CEQA Guidelines requires that the cumulative impacts of a proposed project be addressed in an EIR when the cumulative impacts could be significant. Cumulative impacts are the incremental effects of a proposed project added to the impacts of other closely related past, present, and reasonably foreseeable future projects, which, together, are cumulatively considerable. The cumulative impact analysis in this EA/Draft EIR addresses impacts associated with land use, aesthetics, traffic, air quality, noise, and biological resources. Chapter 12 discusses the cumulative impacts of the proposed project.

## Growth Inducement and Growth-Related Impacts

Section 15126(g) of the State CEQA Guidelines requires lead agencies to discuss growth-inducing impacts and indirect impacts associated with growth inducement. Several factors affect the magnitude, timing, and type of economic and population growth. These factors include local government planning, economic climate, quality of life, and availability of public services and natural resources. Approval of the proposed project would improve safety along Placer County's Auburn-Folsom Road corridor, improve traffic conditions for the Granite Bay community, and accommodate expected increases in local and regional traffic volumes on Auburn-Folsom Road.

Although the improvement of roadway facilities in the area would increase the overall appeal of the area to residential and commercial development, the effect would be minor. Therefore, the proposed project is not anticipated to result in direct or indirect growth-inducing impacts or growth-facilitating impacts.

**Table ES-1.** Summary of Impacts of the Auburn-Folsom Road Widening Project, by Alternative



All four alternatives were evaluated as one scenario in the traffic analysis. There is no variation in traffic impacts associated with the four build alternatives because the roadway alignment selected would not affect traffic volumes or level of service. The traffic section analyzes three conditions: no project, with project (all alternatives), and the design option of a median that restricts turns.

Key:

SU = Significant and unavoidable.

S = Significant.

PS = Potentially significant.

LS = Less than significant.

NI = No impact.

NA = Not applicable.

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **TRAFFIC** | | | | |
| Impact 3.1 Temporary Disruption of Traffic Conditions During Construction | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P3.1: Prepare a Traffic Management Plan to be Implemented During Construction | P3.1: Prepare a Traffic Management Plan to be Implemented During Construction | P3.1: Prepare a Traffic Management Plan to be Implemented During Construction | P3.1: Prepare a Traffic Management Plan to be Implemented During Construction |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 3.2 Increased Roadway Capacity and Increased Traffic Volumes That Would Exacerbate the Construction Year (2005) "No-Project" LOS D, E, or F Conditions at an Intersection or on a Roadway Segment | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P3.2: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.2: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.2: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.2: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 3.3 Increased Traffic Volumes That Would Exacerbate the Cumulative Year (2020) "No-Project" LOS D, E or F Conditions at an Intersection or on a Roadway Segment or Cause the Cumulative Year (2020) "No-Project" LOS at an Intersection or on a Roadway Segment to Deteriorate from LOS A, B, or C to D, E, or F and Would Exceed the Capacity of the Four-Lane Roadway | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P3.3a: Increase the Capacity at the Auburn-Folsom Road/Douglas Boulevard Intersection to Operate at an Acceptable LOS in 2020<br><br>P3.3b: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.3a: Increase the Capacity at the Auburn-Folsom Road/Douglas Boulevard Intersection to Operate at an Acceptable LOS in 2020<br><br>P3.3b: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.3a: Increase the Capacity at the Auburn-Folsom Road/Douglas Boulevard Intersection to Operate at an Acceptable LOS in 2020<br><br>P3.3b: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.3a: Increase the Capacity at the Auburn-Folsom Road/Douglas Boulevard Intersection to Operate at an Acceptable LOS in 2020<br><br>P3.3b: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 3.4 Potential Inconsistency with Equestrian System Policies Contained in the Placer County General Plan and the Granite Bay Community Plan | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P3.4: Install a Signal at the Auburn-Folsom Road/Lou Place Intersection to Allow Pedestrian/Equestrian Crossings | P3.4: Install a Signal at the Auburn-Folsom Road/Lou Place Intersection to Allow Pedestrian/Equestrian Crossings | P3.4: Install a Signal at the Auburn-Folsom Road/Lou Place Intersection to Allow Pedestrian/Equestrian Crossings | P3.4: Install a Signal at the Auburn-Folsom Road/Lou Place Intersection to Allow Pedestrian/Equestrian Crossings |
| Significance After Mitigation | LS | LS | LS | LS |

**Table ES-1.** Summary of Impacts of the Auburn-Folsom Road Widening Project, by Alternative



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Impact 3.5 Potential Inconsistency with Pedestrian and Bicycle System Policies Contained in the Placer County General Plan and the Granite Bay Community Plan | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P3.5: Provide Class II Bikeways | P3.5: Provide Class II Bikeways | P3.5: Provide Class II Bikeways | P3.5: Provide Class II Bikeways |
| Significance After Mitigation | LS | LS | LS | LS |
| **AIR QUALITY** | | | | |
| Impact 4.1 Temporary Increase in ROG, NOx, and PM10 Emissions During Grading and Construction Activities | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P4.1: Implement Best Available Mitigation Measures for Construction Activities | P4.1: Implement Best Available Mitigation Measures for Construction Activities | P4.1: Implement Best Available Mitigation Measures for Construction Activities | P4.1: Implement Best Available Mitigation Measures for Construction Activities |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 4.2 Increase in Local CO Concentrations | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 4.3 Consistency with Regional Transportation Plans | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |

**Table ES-1.** Summary of Impacts of the Auburn-Folsom Road Widening Project, by Alternative



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **HYDROLOGY AND WATER QUALITY** | | | | |
| Impact 5.1 Temporary Degradation of Surface Water Quality During Construction | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P5.1: Obtain a Section 402 NPDES Permit and Prepare an Erosion and Sediment Control Plan | P5.1: Obtain a Section 402 NPDES Permit and Prepare an Erosion and Sediment Control Plan | P5.1: Obtain a Section 402 NPDES Permit and Prepare an Erosion and Sediment Control Plan | P5.1: Obtain a Section 402 NPDES Permit and Prepare an Erosion and Sediment Control Plan |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 5.2 Change in Soil Absorption Rates, Drainage Patterns, and the Rate and Amount of Runoff | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P5.2: Prepare a Drainage Report | P5.2: Prepare a Drainage Report | P5.2: Prepare a Drainage Report | P5.2: Prepare a Drainage Report |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 5.3 Postconstruction Degradation of Surface Water Quality | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P5.3: Prepare a Postconstruction Storm Water Pollution Prevention Plan | P5.3: Prepare a Postconstruction Storm Water Pollution Prevention Plan | P5.3: Prepare a Postconstruction Storm Water Pollution Prevention Plan | P5.3: Prepare a Postconstruction Storm Water Pollution Prevention Plan |
| Significance After Mitigation | LS | LS | LS | LS |
| **NOISE** | | | | |
| Impact 6.1 Exposure of Noise-Sensitive Land Uses (Residences and Campgrounds) to Construction Noise | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |

**Table ES-1.** Summary of Impacts of the Auburn-Folsom Road Widening Project, by Alternative



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Mitigation Measures | P6.1a: Implement Sound Control Requirements<br>P6.1b: Locate Equipment As Far from Noise-Sensitive Receivers As Practicable<br>P6.1c: Use Sound-Control Devices on Combustion-Powered Equipment<br>P6.1d: Shield/Shroud Any Impact Tools<br>P6.1e: Shut Off Machinery When Not in Use<br>P6.1f: Use Shortest Traveling Routes, When Practicable<br>P6.1g: Disseminate Essential Information to Residences and Implement a Complaint Response/Tracking Program<br>P6.1h: Implement Additional Mitigation Measures, As Needed and/or Required | P6.1a: Implement Sound Control Requirements<br>P6.1b: Locate Equipment As Far from Noise-Sensitive Receivers As Practicable<br>P6.1c: Use Sound-Control Devices on Combustion-Powered Equipment<br>P6.1d: Shield/Shroud Any Impact Tools<br>P6.1e: Shut Off Machinery When Not in Use<br>P6.1f: Use Shortest Traveling Routes, When Practicable<br>P6.1g: Disseminate Essential Information to Residences and Implement a Complaint Response/Tracking Program<br>P6.1h: Implement Additional Mitigation Measures, As Needed and/or Required | P6.1a: Implement Sound Control Requirements<br>P6.1b: Locate Equipment As Far from Noise-Sensitive Receivers As Practicable<br>P6.1c: Use Sound-Control Devices on Combustion-Powered Equipment<br>P6.1d: Shield/Shroud Any Impact Tools<br>P6.1e: Shut Off Machinery When Not in Use<br>P6.1f: Use Shortest Traveling Routes, When Practicable<br>P6.1g: Disseminate Essential Information to Residences and Implement a Complaint Response/Tracking Program<br>P6.1h: Implement Additional Mitigation Measures, As Needed and/or Required | P6.1a: Implement Sound Control Requirements<br>P6.1b: Locate Equipment As Far from Noise-Sensitive Receivers As Practicable<br>P6.1c: Use Sound-Control Devices on Combustion-Powered Equipment<br>P6.1d: Shield/Shroud Any Impact Tools<br>P6.1e: Shut Off Machinery When Not in Use<br>P6.1f: Use Shortest Traveling Routes, When Practicable<br>P6.1g: Disseminate Essential Information to Residences and Implement a Complaint Response/Tracking Program<br>P6.1h: Implement Additional Mitigation Measures, As Needed and/or Required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 6.2 Exposure of Residences and Campgrounds to Airblast and Vibration from Blasting | | | | |
| Quantitative Comparison | NA | NA | NA | NA |

**Table ES-1.** Summary of Impacts of the Auburn-Folsom Road Widening Project, by Alternative



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P6.2: Employ Measures to Reduce Airblast and Vibration from Blasting | P6.2: Employ Measures to Reduce Airblast and Vibration from Blasting | P6.2: Employ Measures to Reduce Airblast and Vibration from Blasting | P6.2: Employ Measures to Reduce Airblast and Vibration from Blasting |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 6.3 Exposure of Noise-Sensitive Land Uses (Residences and Campgrounds) to Increased Traffic Noise Levels | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | P6.3: Use Noise-Reducing Pavement | P6.3: Use Noise-Reducing Pavement | P6.3: Use Noise-Reducing Pavement | P6.3: Use Noise-Reducing Pavement |
| Significance After Mitigation | LS | LS | LS | LS |
| **VISUAL RESOURCES/AESTHETICS** | | | | |
| Impact 7.1 Potential Inconsistency with Local Goals and Policies | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | P7.1a: Preserve Existing Trail Access Points in Project Design<br>P7.1b: Provide Class II Bikeway<br>P7.1c: Revegetate All Disturbed Areas | P7.1a: Preserve Existing Trail Access Points in Project Design<br>P7.1b: Provide Class II Bikeway<br>P7.1c: Revegetate All Disturbed Areas | P7.1a: Preserve Existing Trail Access Points in Project Design<br>P7.1b: Provide Class II Bikeway<br>P7.1c: Revegetate All Disturbed Areas | P7.1a: Preserve Existing Trail Access Points in Project Design<br>P7.1b: Provide Class II Bikeway<br>P7.1c: Revegetate All Disturbed Areas |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 7.2 Temporary Visual Impact Caused by Construction Activities | | | | |
| Quantitative Comparison | NA | NA | NA | NA |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 7.3 Degradation of Views and Increase in Glare | | | | |
| Quantitative Comparison | Two homes within 15 feet of new roadway | Zero homes within 15 feet of new roadway | Zero homes within 15 feet of new roadway | Zero homes within 15 feet of new roadway |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P7.3a: Select Street Lights to Minimize Exposure to Glare and Light<br>P7.3b: Construct Fence between Affected Residences and Roadway | P7.3a: Select Street Lights to Minimize Exposure to Glare and Light | P7.3a: Select Street Lights to Minimize Exposure to Glare and Light | P7.3a: Select Street Lights to Minimize Exposure to Glare and Light |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 7.4 Degradation of Visual Quality Resulting from Tree Removal | | | | |
| Quantitative Comparison | 371 trees removed, 296 are native | 389 trees removed, 359 are native | 364 trees removed, 318 are native | 346 trees removed, 313 are native |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P7.4a: Obtain a Tree Permit<br>P7.4b: Mitigate Tree Removal<br>P7.4c: Revegetate and Restore All Disturbed Areas to Minimize Visual Quality Impacts and Provide Screening | P7.4a: Obtain a Tree Permit<br>P7.4b: Mitigate Tree Removal<br>P7.4c: Revegetate and Restore All Disturbed Areas to Minimize Visual Quality Impacts and Provide Screening | P7.4a: Obtain a Tree Permit<br>P7.4b: Mitigate Tree Removal<br>P7.4c: Revegetate and Restore All Disturbed Areas to Minimize Visual Quality Impacts and Provide Screening | P7.4a: Obtain a Tree Permit<br>P7.4b: Mitigate Tree Removal<br>P7.4c: Revegetate and Restore All Disturbed Areas to Minimize Visual Quality Impacts and Provide Screening |

**Table ES-1.** Summary of Impacts of the Auburn-Folsom Road Widening Project, by Alternative



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Significance After Mitigation | SU | SU | SU | SU |
| Impact 7.5 Degradation of Visual Quality Resulting from Cuts, Grading, and Other Changes in Topography | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | S | S | LS |
| Mitigation Measures | None required | P7.5: Enhance Aesthetics of Retaining Walls, Soundwalls, and Other Structural Elements | P7.5: Enhance Aesthetics of Retaining Walls, Soundwalls, and Other Structural Elements | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| **BIOLOGICAL RESOURCES** | | | | |
| Impact 8.1 Potential Disturbance or Loss of Waters of the United States (Including Wetlands) | | | | |
| Quantitative Comparison | Loss of 0.033 hectare (0.084 acre) of waters of the United States, including wetlands | Loss of 0.038 hectare (0.095 acre) of waters of the United States, including wetlands | Loss of 0.030 hectare (0.075 acre) of waters of the United States, including wetlands | Loss of 0.04 hectare (0.10 acre) of waters of the United States, including wetlands |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P8.1a: Obtain a Section 404 Permit from the Corps<br>P8.1b: Obtain a Section 401 Water Quality Certification or Waiver from the Central Valley RWQCB<br>P8.1c: Obtain a Section 1601 Streambed Alteration Agreement from DFG<br>P8.1d: Pay Appropriate | P8.1a: Obtain a Section 404 Permit from the Corps<br>P8.1b: Obtain a Section 401 Water Quality Certification or Waiver from the Central Valley RWQCB<br>P8.1c: Obtain a Section 1601 Streambed Alteration Agreement from DFG<br>P8.1d: Pay Appropriate | P8.1a: Obtain a Section 404 Permit from the Corps<br>P8.1b: Obtain a Section 401 Water Quality Certification or Waiver from the Central Valley RWQCB<br>P8.1c: Obtain a Section 1601 Streambed Alteration Agreement from DFG<br>P8.1d: Pay Appropriate | P8.1a: Obtain a Section 404 Permit from the Corps<br>P8.1b: Obtain a Section 401 Water Quality Certification or Waiver from the Central Valley RWQCB<br>P8.1c: Obtain a Section 1601 Streambed Alteration Agreement from DFG<br>P8.1d: Pay Appropriate |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| | Environmental Document Review Fee<br>P8.1e: Install Temporary Construction Fencing to Protect Wetlands<br>P8.1f: Avoid and Minimize Disturbance of Waters of the United States, Including Wetlands<br>P8.1g: Confine Construction Equipment and Associated Activities to the Designated Work Zone in Areas That Support Wetland Resources<br>P8.1h: Compensate for the Loss of Waters of the United States | Environmental Document Review Fee<br>P8.1e: Install Temporary Construction Fencing to Protect Wetlands<br>P8.1f: Avoid and Minimize Disturbance of Waters of the United States, Including Wetlands<br>P8.1g: Confine Construction Equipment and Associated Activities to the Designated Work Zone in Areas That Support Wetland Resources<br>P8.1h: Compensate for the Loss of Waters of the United States | Environmental Document Review Fee<br>P8.1e: Install Temporary Construction Fencing to Protect Wetlands<br>P8.1f: Avoid and Minimize Disturbance of Waters of the United States, Including Wetlands<br>P8.1g: Confine Construction Equipment and Associated Activities to the Designated Work Zone in Areas That Support Wetland Resources<br>P8.1h: Compensate for the Loss of Waters of the United States | Environmental Document Review Fee<br>P8.1e: Install Temporary Construction Fencing to Protect Wetlands<br>P8.1f: Avoid and Minimize Disturbance of Waters of the United States, Including Wetlands<br>P8.1g: Confine Construction Equipment and Associated Activities to the Designated Work Zone in Areas That Support Wetland Resources<br>P8.1h: Compensate for the Loss of Waters of the United States |
| Quantitative Comparison of Mitigation Requirements | Option 1 of P8.1i would cost $7,392 | Option 1 of P8.1i would cost $8,360 | Option 1 of P8.1i would cost $6,600 | Option 1 of P8.1i would cost $8,800 |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.2 Potential Loss or Disturbance of Valley Foothill Riparian Forest | | | | |
| Quantitative Comparison | Loss of 0.02 hectare (0.05 acre) of valley foothill riparian forest | Loss of 0.04 hectare (0.11 acre) of valley foothill riparian forest | Loss of 0.03 hectare (0.07 acre) of valley foothill riparian forest | Loss of 0.04 hectare (0.10 acre) of valley foothill riparian forest |
| Significance Before Mitigation | S | S | S | S |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Mitigation Measures | P8.2a: Install Temporary Construction Fencing to Protect Trees<br>P8.2b: Compensate for Permanent Impacts on Riparian Communities<br>P8.2c: Update the Tree Survey Report for the Selected Alternative<br>P8.2d: Avoid and Minimize Disturbance of Riparian Communities | P8.2a: Install Temporary Construction Fencing to Protect Trees<br>P8.2b: Compensate for Permanent Impacts on Riparian Communities<br>P8.2c: Update the Tree Survey Report for the Selected Alternative<br>P8.2d: Avoid and Minimize Disturbance of Riparian Communities | P8.2a: Install Temporary Construction Fencing to Protect Trees<br>P8.2b: Compensate for Permanent Impacts on Riparian Communities<br>P8.2c: Update the Tree Survey Report for the Selected Alternative<br>P8.2d: Avoid and Minimize Disturbance of Riparian Communities | P8.2a: Install Temporary Construction Fencing to Protect Trees<br>P8.2b: Compensate for Permanent Impacts on Riparian Communities<br>P8.2c: Update the Tree Survey Report for the Selected Alternative<br>P8.2d: Avoid and Minimize Disturbance of Riparian Communities |
| Quantitative Comparison of Mitigation Requirements | Option 1 of P8.2b would cost $4,900 | Option 1 of P8.2b would cost $10,780 | Option 1 of P8.2b would cost $6,860 | Option 1 of P8.2b would cost $9,800 |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.3 Loss or Disturbance of Blue Oak–Digger Pine Woodland and Native Trees | | | | |
| Quantitative Comparison | Loss of 371 trees, including 195 oaks and 101 other native trees | Loss of 389 trees, including 267 oaks and 92 other native trees | Loss of 364 trees, including 254 oaks and 64 other native trees | Loss of 346 trees, including 242 oaks and 71 other native trees |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P8.3a: Obtain a Tree Permit<br>P8.3b: Mitigate Tree Removal<br>P8.3c: Revegetate All Disturbed Areas<br>P8.3d: Install Temporary Construction Fencing | P8.3a: Obtain a Tree Permit<br>P8.3b: Mitigate Tree Removal<br>P8.3c: Revegetate All Disturbed Areas<br>P8.3d: Install Temporary Construction Fencing | P8.3a: Obtain a Tree Permit<br>P8.3b: Mitigate Tree Removal<br>P8.3c: Revegetate All Disturbed Areas<br>P8.3d: Install Temporary Construction Fencing | P8.3a: Obtain a Tree Permit<br>P8.3b: Mitigate Tree Removal<br>P8.3c: Revegetate All Disturbed Areas<br>P8.3d: Install Temporary Construction Fencing |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| | to Protect Trees<br>P8.3e: Update the Tree Survey Report for the Selected Alternative | to Protect Trees<br>P8.3e: Update the Tree Survey Report for the Selected Alternative | to Protect Trees<br>P8.3e: Update the Tree Survey Report for the Selected Alternative | to Protect Trees<br>P8.3e: Update the Tree Survey Report for the Selected Alternative |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.4 Potential Mortality of Individual Valley Elderberry Longhorn Beetles or Disturbance of Habitat | | | | |
| Quantitative Comparison | Direct impacts on three shrubs and indirect impacts on four shrubs | Direct impacts on five shrubs and indirect impacts on three shrubs | Direct impacts on five shrubs and indirect impacts on three shrubs | Direct impacts on five shrubs and indirect impacts on four shrubs |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P8.4a: Complete Section 7 ESA Consultation with USFWS for Potential Impacts on VELB<br>P8.4b: Establish a Minimum 6-Meter-Wide (20-Foot-Wide) Buffer around All Elderberry Shrubs That Will Not Be Removed<br>P8.4c: Implement Dust Control Measures<br>P8.4d: Transplant Elderberry Shrubs That Cannot Be Avoided<br>P8.4e: Compensate for the Removal or Destruction of Valley Elderberry Longhorn Beetle Habitat<br>P8.4f: Conduct | P8.4a: Complete Section 7 ESA Consultation with USFWS for Potential Impacts on VELB<br>P8.4b: Establish a Minimum 6-Meter-Wide (20-Foot-Wide) Buffer around All Elderberry Shrubs That Will Not Be Removed<br>P8.4c: Implement Dust Control Measures<br>P8.4d: Transplant Elderberry Shrubs That Cannot Be Avoided<br>P8.4e: Compensate for the Removal or Destruction of Valley Elderberry Longhorn Beetle Habitat<br>P8.4f: Conduct | P8.4a: Complete Section 7 ESA Consultation with USFWS for Potential Impacts on VELB<br>P8.4b: Establish a Minimum 6-Meter-Wide (20-Foot-Wide) Buffer around All Elderberry Shrubs That Will Not Be Removed<br>P8.4c: Implement Dust Control Measures<br>P8.4d: Transplant Elderberry Shrubs That Cannot Be Avoided<br>P8.4e: Compensate for the Removal or Destruction of Valley Elderberry Longhorn Beetle Habitat<br>P8.4f: Conduct | P8.4a: Complete Section 7 ESA Consultation with USFWS for Potential Impacts on VELB<br>P8.4b: Establish a Minimum 6-Meter-Wide (20-Foot-Wide) Buffer around All Elderberry Shrubs That Will Not Be Removed<br>P8.4c: Implement Dust Control Measures<br>P8.4d: Transplant Elderberry Shrubs That Cannot Be Avoided<br>P8.4e: Compensate for the Removal or Destruction of Valley Elderberry Longhorn Beetle Habitat<br>P8.4f: Conduct |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| | Mandatory Contractor/Worker Awareness Training for Construction Personnel | Mandatory Contractor/Worker Awareness Training for Construction Personnel | Mandatory Contractor/Worker Awareness Training for Construction Personnel | Mandatory Contractor/Worker Awareness Training for Construction Personnel |
| Quantitative Comparison of Mitigation Requirements | P8.4d requires transplanting of 3 elderberry shrubs<br>Option 1 of P8.4e would cost $3,000<br>Option 3 of P8.4d would require 0.03 hectare (0.08 acre) of conservation area | P8.4d requires transplanting of 5 elderberry shrubs<br>Option 1 of P8.4e would cost $4,500<br>Option 3 of P8.4d would require 0.05 hectare (0.12 acre) of conservation area | P8.4d requires transplanting of 5 elderberry shrubs<br>Option 1 of P8.4e would cost $4,500<br>Option 3 of P8.4d would require 0.05 hectare (0.12 acre) of conservation area | P8.4d requires transplanting of 5 elderberry shrubs<br>Option 1 of P8.4e would cost $4,500<br>Option 3 of P8.4d would require 0.05 hectare (0.12 acre) of conservation area |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.5 Potential Mortality of Northwestern Pond Turtles | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | PS | PS | PS | PS |
| Mitigation Measures | P8.5: Conduct a Preconstruction Survey for Northwestern Pond Turtle at the Baldwin Reservoir Canal | P8.5: Conduct a Preconstruction Survey for Northwestern Pond Turtle at the Baldwin Reservoir Canal | P8.5: Conduct a Preconstruction Survey for Northwestern Pond Turtle at the Baldwin Reservoir Canal | P8.5: Conduct a Preconstruction Survey for Northwestern Pond Turtle at the Baldwin Reservoir Canal |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.6 Potential Disturbance of Nesting Loggerhead Shrike, Oak Titmouse, White-Tailed Kite, and Non-Special-Status Nesting Migratory Birds and Raptors | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | PS | PS | PS | PS |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Mitigation Measures | P8.6a: Conduct a Focused Preconstruction Survey for Raptor Nests and Nesting Birds<br>P8.6b: Avoid Disturbance of Nesting Special-Status and Non-Special-Status Migratory Birds and Raptors | P8.6a: Conduct a Focused Preconstruction Survey for Raptor Nests and Nesting Birds<br>P8.6b: Avoid Disturbance of Nesting Special-Status and Non-Special-Status Migratory Birds and Raptors | P8.6a: Conduct a Focused Preconstruction Survey for Raptor Nests and Nesting Birds<br>P8.6b: Avoid Disturbance of Nesting Special-Status and Non-Special-Status Migratory Birds and Raptors | P8.6a: Conduct a Focused Preconstruction Survey for Raptor Nests and Nesting Birds<br>P8.6b: Avoid Disturbance of Nesting Special-Status and Non-Special-Status Migratory Birds and Raptors |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.7 Potential Disturbance of Nesting Cliff and Barn Swallows | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | PS | PS | PS | PS |
| Mitigation Measures | P8.7: Avoid Disturbance of Nesting Swallows | P8.7: Avoid Disturbance of Nesting Swallows | P8.7: Avoid Disturbance of Nesting Swallows | P8.7: Avoid Disturbance of Nesting Swallows |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.8 Potential Disturbance of Common Wildlife Species | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| **EARTH RESOURCES** | | | | |
| Impact 9.1 Potential Construction-Related Soil Erosion and Sedimentation | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Mitigation Measures | P9.1a: Prepare and Implement Improvement Plans, Specifications, and Cost Estimates<br>P9.1b: Prepare and Implement an Erosion and Sediment Control Plan<br>P9.1c: Revegetate All Disturbed Areas<br>P9.1d: Review Proposed Grading Plans<br>P9.1e: Remove Unsuitable Fill Material or Debris | P9.1a: Prepare and Implement Improvement Plans, Specifications, and Cost Estimates<br>P9.1b: Prepare and Implement an Erosion and Sediment Control Plan<br>P9.1c: Revegetate All Disturbed Areas<br>P9.1d: Review Proposed Grading Plans<br>P9.1e: Remove Unsuitable Fill Material or Debris | P9.1a: Prepare and Implement Improvement Plans, Specifications, and Cost Estimates<br>P9.1b: Prepare and Implement an Erosion and Sediment Control Plan<br>P9.1c: Revegetate All Disturbed Areas<br>P9.1d: Review Proposed Grading Plans<br>P9.1e: Remove Unsuitable Fill Material or Debris | P9.1a: Prepare and Implement Improvement Plans, Specifications, and Cost Estimates<br>P9.1b: Prepare and Implement an Erosion and Sediment Control Plan<br>P9.1c: Revegetate All Disturbed Areas<br>P9.1d: Review Proposed Grading Plans<br>P9.1e: Remove Unsuitable Fill Material or Debris |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 9.2 Destruction of Unique Geologic Features | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | NI | NI | NI | NI |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | NI | NI | NI | NI |
| Impact 9.3 Substantial Alteration of Existing Topography | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |

**Table ES-1.** Summary of Impacts of the Auburn-Folsom Road Widening Project, by Alternative



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Impact 9.4 Potential Mass Wasting | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 9.5 Potentially Expansive Soils and Sediments | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 9.6 Potential Surface Fault Rupture | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | NI | NI | NI | NI |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | NI | NI | NI | NI |
| Impact 9.7 Potential Strong Seismic Ground Shaking and Liquefaction | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 9.8 Reduction of the Availability of a Known Locally or Regionally Important Mineral Resources | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | NI | NI | NI | NI |
| Mitigation Measures | None required | None required | None required | None required |

**Table ES-1.** Summary of Impacts of the Auburn-Folsom Road Widening Project, by Alternative



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Significance After Mitigation | NI | NI | NI | NI |
| **CULTURAL RESOURCES** | | | | |
| Impact 10.1 Potential Damage to Previously Unidentified Buried Archaeological Resources | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | PS | PS | PS | PS |
| Mitigation Measures | P10.1: Stop Work If Cultural Deposits Are Discovered During Ground-Disturbing Activities | P10.1: Stop Work If Cultural Deposits Are Discovered During Ground-Disturbing Activities | P10.1: Stop Work If Cultural Deposits Are Discovered During Ground-Disturbing Activities | P10.1: Stop Work If Cultural Deposits Are Discovered During Ground-Disturbing Activities |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 10.2 Potential Damage to Previously Unidentified Human Remains | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | PS | PS | PS | PS |
| Mitigation Measures | P10.2: Comply with State/Federal Laws Pertaining to the Discovery of Human Remains | P10.2: Comply with State/Federal Laws Pertaining to the Discovery of Human Remains | P10.2: Comply with State/Federal Laws Pertaining to the Discovery of Human Remains | P10.2: Comply with State/Federal Laws Pertaining to the Discovery of Human Remains |
| Significance After Mitigation | LS | LS | LS | LS |
| **TRAILS** | | | | |
| Impact 11.1 Inconsistency with Local Plans and Policies Related to the Development of Bikeways and Trails | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | P11.1a: Provide Class II Bikeways<br>P11.1b: Improve Equestrian Trail in | P11.1a: Provide Class II Bikeways<br>P11.1b: Improve Equestrian Trail in | P11.1a: Provide Class II Bikeways<br>P11.1b: Improve Equestrian Trail in | P11.1a: Provide Class II Bikeways<br>P11.1b: Improve Equestrian Trail in |

**Table ES-1.** Summary of Impacts of the Auburn-Folsom Road Widening Project, by Alternative



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| | Accordance with Standard County Design Conditions | Accordance with Standard County Design Conditions | Accordance with Standard County Design Conditions | Accordance with Standard County Design Conditions |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 11.2 Disruption of Trail Use or Connectivity in the Existing Trail Network | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | P11.2: Install a Traffic Signal at the Auburn-Folsom Road/Lou Place Intersection | P11.2: Install a Traffic Signal at the Auburn-Folsom Road/Lou Place Intersection | P11.2: Install a Traffic Signal at the Auburn-Folsom Road/Lou Place Intersection | P11.2: Install a Traffic Signal at the Auburn-Folsom Road/Lou Place Intersection |
| Significance After Mitigation | LS | LS | LS | LS |

# Known Areas of Controversy

Section 15123(b) of the State CEQA Guidelines requires an EIR to identify areas of controversy known to the lead agency, including issues raised by agencies and the public. Issues raised by agencies and the public include

- selection of the preferred project;
- the exposure of residents along the corridor and campers at Folsom SRA to increased traffic noise;
- impacts on wetlands and special-status species;
- the loss of trees associated with the various alternatives;
- the location(s) where impacts on wetlands, special-status species, and trees will be mitigated;
- increased speeding on Auburn-Folsom Road after the project is complete;
- the location and design of the median (center turn lane versus raised medians);
- the need/desire for soundwall(s);
- the need/desire for "sound-absorbing" pavement material;
- concerns about visibility, safety, and drivers' ability to enter/exit driveways safely;
- encroachment into Folsom Lake Estates;
- possible gating/closure of Oak Hill Drive;
- possible increased drainage and flooding;
- need/desire for a stop light at Lou Place;
- possible increase in truck traffic as a result of the widening; and
- impacts on neighboring land uses.

# Issues to be Resolved

Section 15123 (c) of the State CEQA Guidelines requires an EIR to identify issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects. The following issues need to be resolved.

- If the County and Reclamation decide to approve the project, which alternative should be selected?
- Should the design speed be 80 kph (50 mph) or 88 kph (55 mph)?
- Should soundwalls be provided? If yes, where?
- Should retaining walls be provided? If yes, where?

- Should the Auburn-Folsom Road/Lou Place intersection be signalized?
- What median design should be selected? Should the median be a striped median, or raised median, or possibly landscaped median?
- Should the median design restrict left turns and U-turns and if yes, where should left turns and U-turns be allowed?
- Should the project include a traffic signal at Lou Place?
- Should wetland, elderberry shrub, and tree impacts associated with the Reclamation property be mitigated on the Reclamation property?

## Significant Irreversible Environmental Changes

CEQA requires a discussion of potential significant, irreversible environmental changes that could result from the project. Examples of such changes include commitment of future generations to similar uses, irreversible damage that may result from accidents associated with a project, or irretrievable commitments of resources.

Implementation of the proposed project would result in the short-term commitment of nonrenewable energy resources and natural resources, including sand and gravel, asphalt, and other resources to construct the project.

# Required Permits and Approvals

Placer County is the state lead agency for the proposed project under CEQA and is responsible for certifying the EIR. Because Auburn-Folsom Road is adjacent to the Folsom Lake State Recreation Area (SRA), which is owned by the U.S. Department of the Interior, Bureau of Reclamation, Reclamation is the federal lead agency under NEPA. Reclamation is responsible for compliance under NEPA.

The discretionary actions required by the County as the lead agency under CEQA for project implementation are listed below.

- Certification of the EIR
- Approval of proposed improvements
- Approval of final engineering designs and advertisement of construction bids for the proposed action
- Approval of right-of-way acquisition for the proposed action
- Approval to award the construction contract for the proposed action
- Preparation of drainage report and approval to implement recommendations of drainage report

The discretionary actions required by Reclamation as lead agency under NEPA for project implementation are listed below.

- Certification of compliance with NEPA and federal regulatory requirements
- Approval of a finding of no significant impact (FONSI)
- Approval of right-of-way acquisition of Bureau of Reclamation land

A list of permits and other approvals required to implement the project can be found in Chapter 2, "Project Alternatives."

# Analysis of the No-Build Alternative

Section 15126.6(e) of the State CEQA Guidelines provides guidance on the evaluation of the "no-project" or "no-build" alternative. The purpose of describing and analyzing a no-project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

For the purpose of this environmental document, the No-Build Alternative is defined as what would happen if the project were not approved. For the purpose of this analysis, the practical result of not approving the proposed project (i.e., widening Auburn-Folsom Road from two to four lanes) is described below.

## Traffic

Existing average daily traffic (ADT) volumes on Auburn-Folsom Road range from 27,900 near Douglas Boulevard to 28,900 near Pinebrook Drive. In 2005 without the project, these traffic volumes are projected to increase to 28,500 near Douglas Boulevard to 31,300 near Pinebrook Drive. These traffic volumes would result in p.m. peak-hour roadway segment LOS F at four of the study roadway segments.

In 2020 without the project, these traffic volumes are projected to increase to 31,500 near Douglas Boulevard to 43,100 near Pinebrook Drive. As traffic volumes increase, traffic operations along Auburn-Folsom Road will deteriorate. Congested conditions on Auburn-Folsom Road would encourage drivers to seek alternate north-south routes, such as Barton Road and Sierra College Boulevard. Levels of service on Barton Road would drop from an existing LOS of A to LOS E and F. Cut-through traffic from Auburn-Folsom Road would use Oak Hill Drive and Eureka Road, with existing volumes projected to increase from an ADT of 800 and 4,300, respectively, to 6,300 and 12,400 in 2020, respectively.

# Air Quality

Under the No-Build Alternative, Auburn-Folsom Road would continue to operate as a two-lane facility, and no improvements would be constructed. Under this alternative, there would be no project-related construction air quality impacts (dust and equipment emissions). However, operation-related impacts would be more adverse under the No-Build Alternative (compared to the four build alternatives) because the intersections would be more congested, potentially creating carbon monoxide impacts.

# Hydrology and Water Quality

Under the No-Build Alternative, the Linda Creek culvert would not be improved and there would be no further evaluation of upstream and downstream flow and flooding. Field observations suggest that water has overtopped Auburn-Folsom Road and contributed to bank instability. Without improvement, flood events would continue to overtop the road and contribute to bank scouring and water quality degradation, as well as disruption of traffic flow.

# Noise

Under the No-Build Alternative, there would be no construction-related noise impacts (i.e., no short-term noise impacts would occur). It also is assumed that the road would not be resurfaced and pavement type would not change. As described in Chapter 3, "Transportation and Circulation," traffic volumes on Auburn-Folsom Road would increase regardless of project implementation. Future noise volumes would increase in proportion to this traffic increase. The pavement treatment proposed for use in the project would produce a 3–5 decibel noise reduction when compared to the existing surface. Therefore, the No-Build Alternative would result in higher future noise volumes when compared with the build alternatives.

# Visual Resources/Aesthetics

Under the No-Build Alternative, the visual impacts associated with the proposed construction would not occur. Impacts would be less adverse under the No-Build Alternative (compared to the four build alternatives) because no trees would be removed, the road would not be widened, no soundwalls or retaining walls would be built, and no changes in topography would take place.

## Biological Resources

Under the No-Build Alternative, the biological resources impacts associated with the proposed project would not occur. Impacts would be less adverse under the No-Build Alternative (compared to the four build alternatives) because no trees would be removed, no wetlands would be disturbed, and no other habitat would be affected.

## Earth Resources

Under the No-Build Alternative, the impacts associated with the proposed construction would not occur. Impacts would be less adverse under the No-Build Alternative (compared to the four build alternatives) because there would be no ground or soil disturbance.

## Cultural Resources

Under the No-Build Alternative, the impacts associated with the proposed construction would not occur. Impacts would be less adverse under the No-Build Alternative (compared to the four build alternatives) because there would be no potential disturbance of cultural resources.

## Trails

Under the No-Build Alternative, the bikeway and trail network in the project area would not be modified. The project would upgrade the bikeway along Auburn-Folsom Road, from the County line north to Douglas Boulevard, from a Class III to a Class II bikeway. Also, the project would improve an equestrian trail on the west side of Auburn-Folsom Road from the County line north to Oak Hill Drive. Impacts on trails would be greater under the No-Build Alternative because these proposed improvements would not occur.

# Environmentally Superior Alternative

The State CEQA Guidelines, Section 15126(d), requires that an EIR identify an environmentally superior alternative. The environmentally superior alternative for the proposed project is the No-Build Alternative because no physical changes to the environment would result from construction. However, as described above, the No-Build Alternative would result in increased traffic congestion, air quality impacts, and noise impacts. The No-Build Alternative also would not meet the objectives of the proposed project, including

- maintaining LOS C, as required by the Granite Bay Community Plan,

- accommodating local and regional traffic volumes through 2020, and
- improving safety along the Auburn-Folsom corridor.

If the environmentally superior alternative is the No-Build Alternative, the EIR must identify an environmentally superior alternative among the other alternatives (State CEQA Guidelines, Section 15126 [d][2]). In this case, the environmentally superior alternative is Alternative 4: County DPW–Preferred Alternative, with the identified mitigation measures.

Chapter 1

# Introduction and Project Purpose and Need

## Introduction and Purpose of this Report

### Introduction

Placer County (County), with the cooperation of the U.S. Department of the Interior, Bureau of Reclamation (Reclamation), proposes to improve approximately 3.2 kilometers (2 miles) of Auburn-Folsom Road from the Placer County/Sacramento County line north to Douglas Boulevard. The project corridor is shown in Figure 1-1. Improvements include

- adding a travel lane in each direction, resulting in four 3.6-meter-wide (12-foot-wide) travel lanes;
- adding a 4.2-meter-wide (14-foot-wide) center lane that may include two-way left-turn lanes and/or raised or painted medians in many or all roadway segments;
- providing 1.8-meter-wide (6-foot-wide) shoulders with Class II bicycle lanes on each side of the road;
- redesigning the horizontal and vertical curve north of Lou Place to improve the sight distance to achieve a design speed of 88 kilometers per hour (kph) (55 miles per hour [mph]) (Alternatives 1, 2, and 3) or a design speed of 80 kph (50 mph) (Alternative 4);
- installing curb, gutter, and sidewalk at certain locations;
- constructing/improving a multi-use/equestrian trail on the west side of Auburn-Folsom Road, from the Baldwin Reservoir access road to the Oak Hill Drive intersection;
- constructing a new traffic signal at the Fuller Road intersection;
- improving traffic signal operations at the Eureka Road and Oak Hill Drive intersections;
- restriping Auburn-Folsom Road between Fuller Drive and Douglas Boulevard to accommodate the alignment of Auburn-Folsom Road south of Fuller Drive; and

- implementing sight-distance improvements along Eureka Road approximately 300 meters (980 feet) west of the Auburn-Folsom Road/Eureka Road intersection. Approximately 190 meters (620 feet) would be lowered by approximately 1 meter (3 feet) to improve the vertical sight distance along this portion of Eureka Road. This improvement would allow residents of the Ridgeview Mobile Home Park to use the Eureka Road driveway, which is currently gated.

This document discusses the following four possible alternatives in equal level detail:

- Alternative 1: Widen Roadway to the West
- Alternative 2: Widen Roadway to the East
- Alternative 3: Widen Roadway Equally on Both Sides
- Alternative 4: County DPW–Preferred Alternative

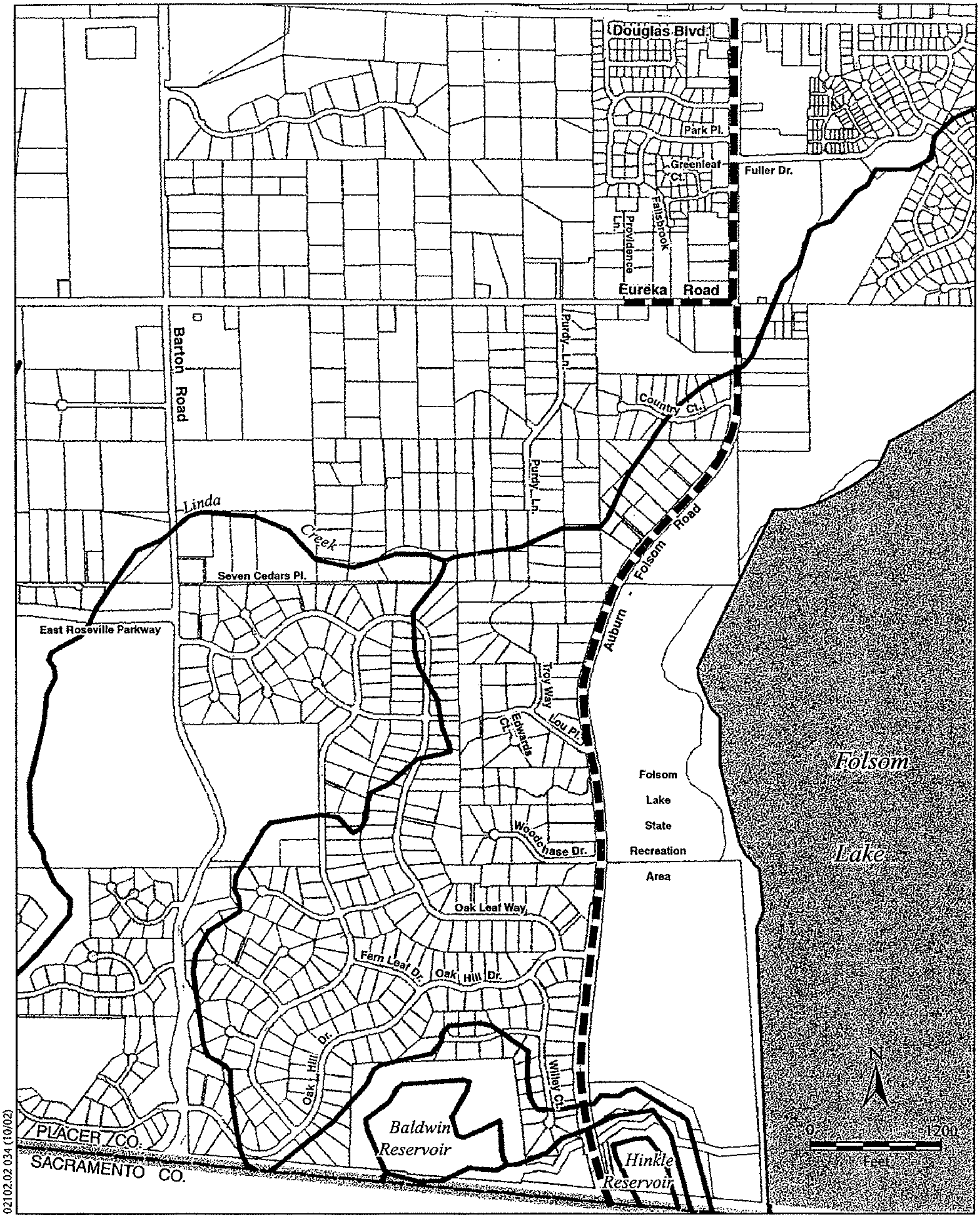
Auburn-Folsom Road is a primary connector route between the City of Auburn and the City of Folsom. The roadway begins in the City of Folsom north of the Lake Natoma Crossing bridge over the American River, intersects with Folsom Dam Road and continues to the City of Auburn in Placer County. South of Folsom Dam Road, Auburn-Folsom Road (known as Folsom-Auburn Road) is a four-lane roadway. At its intersection with Folsom Dam Road, Folsom-Auburn Road transitions from a four-lane width to a two-lane width in the northbound direction, creating a northbound "bottleneck effect."

The roadway has become a primary connector route for commuter traffic between the City of Roseville and the City of Rocklin area and the City of Folsom/eastern Sacramento County area. Rapidly increasing traffic volumes on Auburn-Folsom Road, from the Placer County/Sacramento County line north to Douglas Boulevard, have reached the point where there is a need to increase capacity of the roadway to serve the Granite Bay area and the regional through-commute traffic.

The City of Folsom, in conjunction with the California Department of Transportation (Caltrans), the Federal Highway Administration (FHWA), and Reclamation, has proposed to widen Folsom-Auburn Road from Folsom Dam Road to the Placer County line, a distance of approximately 1.2 kilometers (0.75 mile). The Folsom-Auburn Road widening project is considered a *related* and *independent* project in relation to the project proposed by Placer County and Reclamation.

# Lead Agencies

Placer County is the state lead agency for the project and, as such, has the primary responsibility for preparing the environmental document to comply with



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Jones & Stokes

**Figure 1-1**
**Project Site**

the California Environmental Quality Act (CEQA) and for approving or denying the project.

Reclamation owns land on the east side of the roadway (Folsom Lake State Recreation Area [SRA]) and must grant an encroachment easement for construction of the project. Therefore, Reclamation is the federal lead agency for the project and has the primary responsibility for preparing the environmental document to comply with the National Environmental Policy Act (NEPA).

The County has determined that the appropriate environmental document under CEQA is an environmental impact report (EIR), and Reclamation has determined that the appropriate environmental document under NEPA is an environmental assessment (EA). The County and Reclamation have decided to prepare a joint environmental document to comply with both CEQA and NEPA (an EA/EIR).

# Purpose of this Report

This environmental document has been prepared in compliance with NEPA and CEQA. The purpose of this report is to evaluate and disclose the environmental consequences of the proposed project. This report is a public informational document used in the planning and decision-making process. Although the environmental analysis presented does not control the ultimate decision on the project, Placer County and Reclamation must consider the information in this report before making a decision to approve or deny the project.

Government agencies must consider the environmental consequences of projects over which they have discretionary authority. State and local agencies are required by CEQA to avoid or mitigate impacts, when feasible. Public agencies also are required to balance a variety of public objectives, including economic, environmental, and social objectives.

CEQA (Sections 21000–21178.1 of the Public Resources Code) and the State CEQA Guidelines provide the statutory requirements for evaluating environmental impacts of a project. Specifically, the purpose of an EIR is to

- identify the potentially significant impacts of the proposed project on the environment and to indicate the manner in which those significant impacts can be avoided or mitigated;
- identify any unavoidable adverse impacts that cannot be mitigated;
- identify reasonable and feasible alternatives to the project that would eliminate any significant adverse environmental impacts or reduce the impacts to a less-than-significant level;
- disclose growth-inducing impacts;
- identify impacts found not to be significant; and
- disclose the significant cumulative impacts of all past, present, and reasonably anticipated future projects.

CEQA requires that the County prepare an EIR that reflects the independent judgement of the agency regarding the impacts, the level of significance of the impacts both before and after mitigation, and mitigation measures proposed to reduce the impacts. A Draft EIR is circulated to responsible agencies, trustee agencies with resources affected by the project, and interested agencies and individuals. The purposes of public and agency review of a Draft EIR include sharing expertise, disclosing agency analyses, checking for accuracy, detecting omissions, discovering public concerns, and soliciting counter-proposals.

NEPA requires that Reclamation prepare an EA to determine whether the proposed action will "significantly affect the quality of the human environment." The purposes of an EA are to

- provide evidence and analysis sufficient to determine whether an environmental impact statement (EIS) is required,
- aid a federal agency's compliance with NEPA when no EIS is necessary, and
- facilitate preparation of an EIS when one is necessary.

If, at the conclusion of the EA process, Reclamation determines that, under NEPA, the action has no potential for significant effects, Reclamation will prepare a "finding of no significant impact" (FONSI).

An important distinction between CEQA and NEPA is in the use of the term "significant" impact or effect. CEQA requires that environmental documents identify significant or potentially significant impacts, NEPA does not. Addressing significant or potentially significant impacts in joint CEQA and NEPA environmental documents can be confusing, especially in instances where the two laws and implementing regulations have different thresholds of significance. Under NEPA, the degree to which a resource is adversely affected is used only to determine which NEPA document is necessary. Once the federal agency has determined the magnitude of a project's impacts and the level of documentation required, it is the magnitude of the impact that is evaluated in the environmental document, not the degree of significance. For the purpose of the impact discussion in this document, determination of significant or potentially significant impacts is made in the context of CEQA only.

This EA/Draft EIR has been prepared jointly by the County and Reclamation to meet the requirements discussed above. Reviewers of this environmental document should focus on the sufficiency of the document in identifying and analyzing possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific mitigation measures that would provide better ways to avoid or mitigate effects.

# Project Purpose

The purpose of the proposed project is to relieve recurring traffic congestion by providing additional capacity to meet existing and projected traffic demands through 2020, as described in the Capital Improvement Program. The additional capacity would

- reduce corridor delay,
- relieve traffic congestion and add capacity during peak- and off-peak periods, and
- accommodate local and regional traffic volumes through 2020.

The proposed project also would improve roadway operation and safety by widening the roadway; signalizing the Fuller Drive intersection and improving the intersection's geometry; improving sight distance along Eureka Road; adding medians and left-turn lanes; and improving Auburn-Folsom Road's horizontal and vertical alignment.

# Need for the Project

Auburn-Folsom Road has relatively high volumes of traffic throughout the daytime hours, with well-defined morning and evening peak-hour traffic volumes. As traffic volumes increase, the peaks will broaden, and roadway travelers will experience congestion for increasingly longer periods of time during the day.

Between the County line and Douglas Boulevard, drivers experience operational traffic problems during the morning and evening peak hours. Long queues form at the Eureka Road and Oak Hill Drive signalized intersections. Drivers turning onto Auburn-Folsom Road from driveways and residential streets, such as Fuller Drive, have difficulty finding gaps in traffic and therefore sometimes experience delays of several minutes. Pedestrians, including students attending the Willma E. Cavitt Junior High School (just east of the Fuller Drive intersection), are not able to easily cross Auburn-Folsom Road. The vertical and horizontal curves of the existing roadway also reduce the design speed and contribute to delays. Congestion on Auburn-Folsom Road results in drivers using cut-through routes, such as Barton Road and Oak Hill Drive. Finally, the frequency of accidents on Auburn-Folsom Road, between Eureka Road and Douglas Boulevard, exceeds the statewide average for similar transportation routes.

## Traffic Analysis

A detailed traffic analysis was conducted by Fehr & Peers as part of the environmental review and is included as Chapter 3 of this EA/Draft EIR. The traffic analysis included a description of the existing transportation system in the vicinity of the proposed project. Impacts on study roadways were determined by measuring the effect that the project has on traffic volumes, traffic operations at key intersections during peak-hour conditions, and on roadway segments under daily conditions. A summary of the analysis is presented below.

Transportation professionals typically describe vehicle traffic operating conditions for roadways and intersections in terms of "level of service" (LOS). LOS is a common, qualitative measurement of the effect that various factors have on traffic operations. Typical factors include speed, travel time, traffic interruptions, freedom to maneuver, and safety. The LOS for intersections and roadways ranges from "A" (the best) to "F" (the worst).

## Existing Traffic Operations (without Project)

Table 1-1 contains the existing LOS and delay results for the study intersections. Table 1-1 shows that the study area intersections along Auburn-Folsom Road operate from LOS A (unsignalized) to LOS C (Eureka Road and Oak Hill Drive) to LOS D (Douglas Boulevard). Worst-case movements for the unsignalized intersections operate at LOS E and F (delays for the worst-case movement of more than 50 seconds per vehicle).

**Table 1-1.** Intersection Levels of Service—Existing Conditions

| | | PM Peak Hour | | | |
|---|---|---|---|---|---|
| | | Worst-case Movement [1] | | Overall | |
| Intersection | Control | Delay [2] | LOS | Delay [2] | LOS |
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 35.1 | D |
| 2. Auburn-Folsom Road/Fuller Drive | Side-street stop | 37.8* | E* | 1.7* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street stop | > 50.0* | F* | 0.6* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | 30.6* | C* |
| 5. Auburn-Folsom Road/Country Court | Side-street stop | > 50.0* | F* | 0.3* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street stop | > 50.0* | F* | 0.5* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | 31.2* | C* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 11.4* | B* |
| 9. Barton Road/Oak Hill Drive | Side-street stop | 13.7 | B | 2.7 | A |
| 10. Barton Road/MacDuff Drive | Side-street stop | 10.0 | B | 2.2 | A |
| 11. Barton Road/Eureka Road | All-way stop | 18.4 | C | 16.1 | C |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | 49.2 | D |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.

* An asterisk indicates intersections that are influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.

Source: Fehr & Peers 2002.

Table 1-2 contains the existing average daily traffic (ADT) and LOS results for the study roadway segments. As shown, average daily traffic (ADT) ranges from 27,900 vehicles at the north end of the project area, near Douglas Boulevard, to 28,900 at the south end of the project area, near Pinebrook Drive. The LOS from Fuller Drive south to Pinebrook Drive is F.

**Table 1-2.** Roadway Segment Daily Levels of Service—Existing Conditions

| Roadway Segment | Roadway Type | Number of Lanes | ADT | LOS |
|---|---|---|---|---|
| Auburn-Folsom Road—Douglas Boulevard to Fuller Drive | A-HAC | 4** | 27,900 | B |
| Auburn-Folsom Road—Fuller Drive to Eureka Road | A-HAC | 2 | 28,800 | F |
| Auburn-Folsom Road—Eureka Road to Country Court | A-HAC | 2 | 28,300 | F |
| Auburn-Folsom Road—Country Court to Oak Hill Drive | A-HAC | 2 | 28,400 | F |
| Auburn-Folsom Road—Oak Hill Drive to Pinebrook Drive | A-HAC | 2 | 28,900 | F |
| Barton Road—County Line to Oak Hill Drive | A-LAC | 2 | 3,700 | A |
| Barton Road—Oak Hill Drive to MacDuff Drive | A-LAC | 2 | 4,500 | A |
| Barton Road—East Roseville Parkway to Eureka Road | A-LAC | 2 | 7,000 | A |
| Barton Road—Eureka Road to Douglas Boulevard | A-LAC | 2 | 7,700 | A |
| Oak Hill Drive—Oak Leaf Way to Fern Leaf Drive | Local Road | 2 | 800 | * |
| MacDuff Drive—MacDuff Court to Oak Leaf Way | Local Road | 2 | 1,400 | * |
| Eureka Road—Auburn-Folsom Road to Barton Road | A-LAC | 2 | 4,300 | A |
| Douglas Boulevard—Auburn-Folsom Road to Barton Road | A-HAC | 4 | 35,400 | D |

* The Placer County General Plan does not identify LOS for local roads.
** Auburn-Folsom Road transitions from four to two lanes through this section.

A-HAC = Arterial—high access control.
A-LAC = Arterial—low access control.

Source: Fehr & Peers 2002.

The transportation impact analysis focused on p.m. peak-hour traffic operations at the study intersections. The analysis includes the no-project conditions (2005 and 2020), the basic group of alternatives, and a raised median design option, as defined by Placer County DPW.

The traffic operations analysis was conducted for construction year (2005) conditions and cumulative year (2020) conditions. Traffic forecasts for cumulative conditions were developed using the Southeast Placer County travel demand model developed by DKS Associates for the *Southeast Placer County Transportation Study*. Fehr & Peers added detail to the roadway network and modified free-flow speeds to better reflect travel patterns in the study area.

## Construction Year (2005) Conditions

Based on the geometry, traffic controls, and traffic volume forecasts, p.m. peak-hour traffic operations at the study intersections were analyzed for "no-project," project, and raised median project option conditions. Table 1-3 shows the intersection LOS under construction year (2005) no-project conditions.

**Table 1-3.** Intersection Level of Service—Construction Year (2005) No-Project Conditions

| | | PM Peak Hour | | | |
|---|---|---|---|---|---|
| | | Worst-Case Movement [1] | | Overall | |
| Intersection | Control | Delay [2] | LOS | Delay [2] | LOS |
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 40.9 | D |
| 2. Auburn-Folsom Road/Fuller Drive | Side-street stop | 38.5* | E* | 1.6* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street stop | > 50.0* | F* | 1.5* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | 55.6* | E* |
| 5. Auburn-Folsom Road/Country Court | Side-street stop | > 50.0* | F* | 1.6* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street stop | > 50.0* | F* | 1.6* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | 45.9* | D* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 3.4* | A* |
| 9. Barton Road/Oak Hill Drive | Side-street stop | 17.7 | C | 4.2 | A |
| 10. Barton Road/MacDuff Drive | Side-street stop | 11.1 | B | 2.0 | A |
| 11. Barton Road/Eureka Road | All-way stop | 27.0 | D | 21.1 | C |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | 51.8 | D |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.

* An asterisk indicates intersections that are influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.

Source: Fehr & Peers 2002.

As shown in Table 1-3, the Auburn-Folsom Road/Douglas Boulevard and Barton Road/Douglas Boulevard intersections will operate at LOS D during the p.m. peak hour under construction year (2005) "no-project" conditions. The p.m. peak-hour LOS will deteriorate to LOS E at the Auburn-Folsom Road/Eureka Road intersection and will deteriorate to LOS D at the Auburn-Folsom Road/Oak Hill Drive intersection under these conditions. The p.m. peak-hour intersection LOS will improve at the Auburn-Folsom Road/Pinebrook Drive intersection because of the increased capacity provided by Folsom's Folsom-Auburn Road widening project.

As shown in Table 1-4, construction of the project would improve the p.m. peak-hour intersection LOS to an acceptable level, compared to the "no-project" condition, at the Auburn-Folsom Road/Eureka Road and Auburn-Folsom Road/Oak Hill Drive intersections. The Auburn-Folsom Road/Fuller Drive intersection would operate at LOS A with the project. The Auburn-Folsom Road/Douglas Boulevard and Barton Road/Douglas Boulevard intersections would continue to operate at LOS D during the p.m. peak hour. Although these intersections would operate deficiently, the overall delay (measured in seconds per vehicle) would decrease from "no-project" conditions with implementation of the project at these locations.

**Table 1-4.** Intersection Level of Service—Construction Year (2005) with-Project Conditions

| | | PM Peak Hour | | | |
|---|---|---|---|---|---|
| | | Worst-case Movement[1] | | Overall | |
| Intersection | Control | Delay[2] | LOS | Delay[2] | LOS |
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 35.8 | D |
| 2. Auburn-Folsom Road/Fuller Drive | Signalized | - | - | 4.4* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street stop | > 50.0* | F* | 0.5* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | 20.5* | C* |
| 5. Auburn-Folsom Road/Country Court | Side-street stop | > 50.0* | F* | 0.6* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street stop | > 50.0* | F* | 0.7* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | 11.8* | B* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 3.4* | A* |
| 9. Barton Road/Oak Hill Drive | Side-street stop | 15.4 | C | 3.3 | A |
| 10. Barton Road/MacDuff Drive | Side-street stop | 10.6 | B | 2.1 | A |
| 11. Barton Road/Eureka Road | All-way stop | 22.1 | C | 18.4 | C |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | 48.2 | D |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.

* An asterisk indicates intersections that may be influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.

Source: Fehr & Peers 2002.

As shown in Table 1-5, all of the Auburn-Folsom Road study roadway segments will operate at LOS F under construction year (2005) "no-project" conditions, except the existing four-lane section from Douglas Boulevard to Fuller Drive. The section of Douglas Boulevard between Auburn-Folsom Road and Barton Road will operate at LOS D.

**Table 1-5.** Roadway Segment Daily Levels of Service—Construction Year (2005) No Project Conditions

| Roadway Segment | Roadway Type | Number of Lanes | ADT | LOS |
|---|---|---|---|---|
| Auburn-Folsom Road—Douglas Boulevard to Fuller Drive | A-HAC | 4** | 28,500 | C |
| Auburn-Folsom Road—Fuller Drive to Eureka Road | A-HAC | 2 | 29,400 | F |
| Auburn-Folsom Road—Eureka Road to Country Court | A-HAC | 2 | 29,800 | F |
| Auburn-Folsom Road—Country Court to Oak Hill Drive | A-HAC | 2 | 29,900 | F |
| Auburn-Folsom Road—Oak Hill Drive to Pinebrook Drive | A-HAC | 2 | 31,300 | F |
| Barton Road—County Line to Oak Hill Drive | A-LAC | 2 | 4,500 | A |
| Barton Road—Oak Hill Drive to MacDuff Drive | A-LAC | 2 | 6,200 | A |
| Barton Road—East Roseville Parkway to Eureka Road | A-LAC | 2 | 8,200 | A |
| Barton Road—Eureka Road to Douglas Boulevard | A-LAC | 2 | 9,100 | B |
| Oak Hill Drive—Oak Leaf Way to Fern Leaf Drive | Local Road | 2 | 1,700 | * |
| MacDuff Drive—MacDuff Court to Oak Leaf Way | Local Road | 2 | 1,400 | * |
| Eureka Road—Auburn-Folsom Road to Barton Road | A-LAC | 2 | 5,600 | A |
| Douglas Boulevard—Auburn-Folsom Road to Barton Road | A-HAC | 4 | 35,900 | D |

* The Placer County General Plan does not identify LOS for local roads.
** Auburn-Folsom Road transitions from 4 to 2 lanes through this section.

A-HAC = Arterial—high access control.
A-LAC = Arterial—low access control.

Source: Fehr & Peers 2002.

As shown in Table 1-6, all of the study roadway segments on Auburn-Folsom Road will operate at LOS C with implementation of the project under construction year (2005) conditions. The segment of Barton Road between Eureka Road and Douglas Boulevard will improve to LOS A because traffic will be reduced on this segment. The segment of Douglas Boulevard between Auburn-Folsom Road and Barton Road will operate at LOS E. The average daily traffic on Oak Hill Drive from Oak Leak Way to Fern Leaf Drive will decrease compared to the "no-project" condition.

**Table 1-6.** Roadway Segment Daily Levels of Service—Construction Year (2005) with Project Conditions

| Roadway Segment | Roadway Type | Number of Lanes | ADT | LOS |
|---|---|---|---|---|
| Auburn-Folsom Road—Douglas Boulevard to Fuller Drive | A-HAC | 4 | 29,900 | C |
| Auburn-Folsom Road—Fuller Drive to Eureka Road | A-HAC | 4 | 30,900 | C |
| Auburn-Folsom Road—Eureka Road to Country Court | A-HAC | 4 | 30,800 | C |
| Auburn-Folsom Road—Country Court to Oak Hill Drive | A-HAC | 4 | 30,900 | C |
| Auburn-Folsom Road—Oak Hill Drive to Pinebrook Drive | A-HAC | 4 | 31,600 | C |
| Barton Road—County Line to Oak Hill Drive | A-LAC | 2 | 4,800 | A |
| Barton Road—Oak Hill Drive to MacDuff Drive | A-LAC | 2 | 5,900 | A |
| Barton Road—East Roseville Parkway to Eureka Road | A-LAC | 2 | 7,900 | A |
| Barton Road—Eureka Road to Douglas Boulevard | A-LAC | 2 | 8,600 | A |
| Oak Hill Drive—Oak Leaf Way to Fern Leaf Drive | Local Road | 2 | 1,200 | * |
| MacDuff Drive—MacDuff Court to Oak Leaf Way | Local Road | 2 | 1,400 | * |
| Eureka Road—Auburn-Folsom Road to Barton Road | A-LAC | 2 | 5,400 | A |
| Douglas Boulevard—Auburn-Folsom Road to Barton Road | A-HAC | 4 | 36,600 | E |

* The Placer County General Plan does not identify LOS for local roads.

A-HAC = Arterial—high access control.
A-LAC = Arterial—low access control.

Source: Fehr & Peers 2002.

## Cumulative Year (2020) Conditions

As shown in Table 1-7, all of the signalized study intersections except the Auburn-Folsom Road/Pinebrook Drive intersection will operate at LOS D or worse during the p.m. peak hour under cumulative year (2020) "no-project" conditions. The worst-case movement at all of the unsignalized study intersections, except the Barton Road/MacDuff Drive intersection, will operate at LOS E or F during the p.m. peak hour under cumulative year (2020) "no-project" conditions. The overall p.m. peak-hour intersection LOS at the Barton Road/Oak Hill Drive intersection will be LOS E, and the overall p.m. peak-hour intersection LOS at the Barton Road/Eureka Road intersection will be LOS F.

**Table 1-7.** Intersection Level of Service—Cumulative Year (2020) No-Project Conditions

| | | PM Peak Hour Hour | | | |
|---|---|---|---|---|---|
| | | Worst-case Movement[1] - | | Overall | |
| Intersection | Control | Delay [2] | LOS | Delay [2] | LOS |
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 49.9 | D |
| 2. Auburn-Folsom Road/Fuller Drive | Side-street stop | 41.0* | E* | 1.6* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street stop | > 50.0* | F* | 1.9* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | > 80.0* | F* |
| 5. Auburn-Folsom Road/Country Court | Side-street stop | > 50.0* | F* | 4.4* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street stop | > 50.0* | F* | 4.6* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | > 80.0* | F* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 4.4* | A* |
| 9. Barton Road/Oak Hill Drive | Side-street stop | > 50.0 | F | 35.6 | E |
| 10. Barton Road/MacDuff Drive | Side-street stop | 21.9 | C | 1.8 | A |
| 11. Barton Road/Eureka Road | All-way stop | > 50.0 | F | >50.0 | F |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | > 80.0 | F |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.

* An asterisk indicates intersections that are influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.

Source: Fehr & Peers 2002.

As shown in Table 1-8, construction of the project would improve the p.m. peak-hour intersection LOS, compared to the cumulative year "no-project" conditions, at the Auburn-Folsom Road/Oak Hill Drive intersection. The overall p.m. peak-hour intersection LOS would improve to LOS A at the Barton Road/Oak Hill Drive intersection. The p.m. peak-hour delay at the Auburn-Folsom Road/Douglas Boulevard intersection would increase with the construction of the project as more traffic uses Auburn-Folsom Road. The Auburn-Folsom Road/Eureka Road, Barton Road/Eureka Road, and Barton Road/Douglas Boulevard intersections would continue to operate at LOS F.

**Table 1-8.** Intersection Level of Service—Cumulative Year (2020) with-Project Conditions

| | | PM Peak Hour | | | |
|---|---|---|---|---|---|
| | | Worst-case Movement[1] | | Overall | |
| Intersection | Control | Delay [2] | LOS | Delay [2] | LOS |
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 71.5 | E |
| 2. Auburn-Folsom Road/Fuller Drive | Signalized | - | - | 8.2* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street stop | > 50.0* | F* | 2.2* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | > 80.0* | F* |
| 5. Auburn-Folsom Road/Country Court | Side-street stop | > 50.0* | F* | 4.0* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street stop | > 50.0* | F* | 4.0* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | 42.8* | D* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 5.1* | A* |
| 9. Barton Road/Oak Hill Drive | Side-street stop | > 50.0 | F | 7.4 | A |
| 10. Barton Road/MacDuff Drive | Side-street stop | 13.3 | B | 1.4 | A |
| 11. Barton Road/Eureka Road | All-way stop | > 50.0 | F | > 50.0 | F |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | > 80.0 | F |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.

* An asterisk indicates intersections that may be influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.

Source: Fehr & Peers 2002.

As shown in Table 1-9, all of the study roadway segments on Auburn-Folsom Road, Barton Road, Eureka Road, and Douglas Boulevard, except the existing four-lane section of Auburn-Folsom Road from Douglas Boulevard to Fuller Drive and the section of Barton Road from the County line to Oak Hill Drive, will operate at LOS D or worse under cumulative year (2020) "no-project" conditions.

**Table 1-9.** Roadway Segment Daily Levels of Service—Cumulative Year (2020) No-Project Conditions

| Roadway Segment | Roadway Type | Number of Lanes | ADT | LOS |
|---|---|---|---|---|
| Auburn-Folsom Road—Douglas Boulevard to Fuller Drive | A-HAC | 4** | 31,500 | C |
| Auburn-Folsom Road—Fuller Drive to Eureka Road | A-HAC | 2 | 32,100 | F |
| Auburn-Folsom Road—Eureka Road to Country Court | A-HAC | 2 | 37,300 | F |
| Auburn-Folsom Road—Country Court to Oak Hill Drive | A-HAC | 2 | 37,200 | F |
| Auburn-Folsom Road—Oak Hill Drive to Pinebrook Drive | A-HAC | 2 | 43,100 | F |
| Barton Road—County Line to Oak Hill Drive | A-LAC | 2 | 8,400 | A |
| Barton Road—Oak Hill Drive to MacDuff Drive | A-LAC | 2 | 14,500 | E |
| Barton Road—East Roseville Parkway to Eureka Road | A-LAC | 2 | 14,100 | E |
| Barton Road—Eureka Road to Douglas Boulevard | A-LAC | 2 | 16,200 | F |
| Oak Hill Drive—Oak Leaf Way to Fern Leaf Drive | Local Road | 2 | 6,300 | * |
| MacDuff Drive—MacDuff Court to Oak Leaf Way | Local Road | 2 | 1,700 | * |
| Eureka Road—Auburn-Folsom Road to Barton Road | A-LAC | 2 | 12,400 | D |
| Douglas Boulevard—Auburn-Folsom Road to Barton Road | A-HAC | 4 | 38,500 | E |

* The Placer County General Plan does not identify LOS for local roads.
** Auburn-Folsom Road transitions from 4 to 2 lanes through this section.

A-HAC = Arterial—high access control.
A-LAC = Arterial—low access control.

Source: Fehr & Peers 2002.

As shown in Table 1-10 on the following page, all of the study roadway segments on Auburn-Folsom Road, Barton Road, and Douglas Boulevard, except the section of Barton Road between the County line and Oak Hill Drive, would continue to operate at LOS D or worse with implementation of the project. Although these segments operate deficiently, the LOS will improve on the following roadway segments:

- Barton Road—Oak Hill Drive to MacDuff Drive;
- Barton Road—East Roseville Parkway to Eureka Road; and
- Barton Road—Eureka Road to Douglas Boulevard.

The Barton Road segments improve because daily volumes would decrease with the implementation of the project, as will the segment of Eureka Road from Auburn-Folsom Road to Barton Road, which would improve to LOS C conditions. The segment of Barton Road between the County line and Oak Hill

Drive would experience an increase in daily traffic that would result in LOS B conditions. Implementation of the project would cause the segment of Douglas Boulevard from Auburn-Folsom Road to Barton Road to operate at LOS F because of the increase in peak-hour volumes that is projected to result from trips shifting to the Douglas Boulevard/Auburn-Folsom Road route because of the increased capacity along Auburn-Folsom Road. The project would also result in a shift of trips to Auburn-Folsom Road from parallel north-south routes, such as Sierra College Boulevard. The average daily traffic on Oak Hill Drive, from Oak Leak Way to Fern Leaf Drive, and MacDuff Drive, from MacDuff Court to Oak Leaf Way, would decrease compared to the "no-project" condition.

Implementation of the project would not be sufficient to eliminate unacceptable LOS operations at study intersections and on study roadway segments under cumulative year (2020) conditions and would increase the delay at the Auburn-Folsom Road/Douglas Boulevard intersection as more capacity is added to Auburn-Folsom Road. Implementation of the project would support Policy 3.A.5 of the Placer County General Plan by discouraging the use of neighborhood streets, such as Oak Hill Drive and MacDuff Drive.

**Table 1-10.** Roadway Segment Daily Levels of Service—Cumulative Year (2020) with-Project Conditions

| Roadway Segment | Roadway Type | Number of Lanes | ADT | LOS |
|---|---|---|---|---|
| Auburn-Folsom Road—Douglas Boulevard to Fuller Drive | A-HAC | 4 | 39,900 | E |
| Auburn-Folsom Road—Fuller Drive to Eureka Road | A-HAC | 4 | 41,500 | F |
| Auburn-Folsom Road—Eureka Road to Country Court | A-HAC | 4 | 43,300 | F |
| Auburn-Folsom Road—Country Court to Oak Hill Drive | A-HAC | 4 | 43,200 | F |
| Auburn-Folsom Road— Oak Hill Drive to Pinebrook Drive | A-HAC | 4 | 45,200 | F |
| Barton Road—County Line to Oak Hill Drive | A-LAC | 2 | 10,000 | B |
| Barton Road—Oak Hill Drive to MacDuff Drive | A-LAC | 2 | 12,600 | D |
| Barton Road—East Roseville Parkway to Eureka Road | A-LAC | 2 | 12,400 | D |
| Barton Road—Eureka Road to Douglas Boulevard | A-LAC | 2 | 13,200 | D |
| Oak Hill Drive—Oak Leaf Way to Fern Leaf Drive | Local Road | 2 | 3,000 | * |
| MacDuff Drive—MacDuff Court to Oak Leaf Way | Local Road | 2 | 1,500 | * |
| Eureka Road—Auburn-Folsom to Barton Road | A-LAC | 2 | 10,600 | C |
| Douglas Boulevard—Auburn-Folsom Road to Barton Road | A-HAC | 4 | 42,800 | F |

* The Placer County General Plan does not identify LOS for local roads.

A-HAC = Arterial—high access control.
A-LAC = Arterial—low access control.

Source: Fehr & Peers 2002.

# Accident Data Analysis

The accident rates for intersections and roadway segments were calculated using the methods outlined in the *Traffic Engineering Handbook*. The accident rate for intersections is based on the number of vehicles entering the intersection annually. The accident rate for roadway segments is based on annual million vehicle-miles of travel on the segment. The formulas for calculating both the intersection and roadway segment accident rates account for the number of years of data that were collected, yielding an average yearly accident rate. Typically, the accident data used for a traffic analysis represents the most recent 3 full years. The calculated accident rates are compared to the average accident rates published in the Caltrans 1998 *Accident Data on California State Highways* book for similar facilities. Table 1-11 shows the accident rates for 1999, 2000, and 2001. As shown, the actual accident rate for Auburn-Folsom Road between Eureka Road and Fuller Drive is higher than the statewide average for a facility of the same general type. All the other roadway segments and intersections are lower than the statewide average.

**Table 1-11.** Summary of Accidents and Accident Rates for Auburn-Folsom Road

| Location | Number of Accidents | Accident Rate (per million vehicle miles) | Statewide Average Rate (per million vehicle miles) |
|---|---|---|---|
| **Roadway Segments** | | | |
| County Line to Oak Hill Drive | 7 | 0.69 | 2.00 |
| Oak Hill Drive to Eureka Road | 26 | 0.80 | 2.00 |
| Eureka Road to Fuller Drive | 12 | 2.75 | 2.00 |
| **Intersections** | | | |
| Oak Hill Drive | 3 | 0.10 | 0.54 |
| Eureka Road | 11 | 0.35 | 0.54 |
| Fuller Drive | 3 | 0.32 | 0.54 |

Source: Placer County Department of Public Works 2002.

# Project Background

As previously stated, Auburn-Folsom Road is a primary two-lane connector roadway between the City of Auburn and the City of Folsom. The road also acts as a primary north-south connector for Granite Bay residents. The alignment of Auburn-Folsom Road south of Eureka Road was relocated during the construction of Folsom Dam in the mid-1950s.

In 1989, the Placer County Department of Public Works studied traffic and transportation issues in southern Placer County. The *South Placer Traffic Study* (Placer County Department of Public Works 1989) identified several roadways in

Granite Bay that need to be improved to meet the community's goal of maintaining LOS C or better at full buildout. The study identified Auburn-Folsom Road in its recommendations for roadways that should be included in the Placer County Capital Improvement Program (CIP) for future improvements. These recommendations were incorporated in the Granite Bay Community Plan, which was also completed and approved in 1989.

In 2000, traffic congestion in the Granite Bay area, the increase of through traffic, and "neighborhood traffic management" were studied in the *Southeast Placer County Transportation Study* (DKS Associates 2000). Again, improvements were recommended for Auburn-Folsom Road. To alleviate current and future congestion, the study recommended that Auburn-Folsom Road be widened from two lanes to four lanes between the County line and Fuller Drive. The proposed widening is therefore consistent with the Granite Bay Community Plan and the transportation studies that have been performed during the last 13 years.

# Public Involvement Process

The proposed project was developed by Placer County through a process that seeks to balance community and regional values with transportation needs. Placer County is using a four-step process to ensure that the final design of Auburn-Folsom Road improves the roadway's capacity and safety while addressing many of the regional and community issues and concerns. The four-step process consists of preliminary design, environmental review, design, and construction. During the preliminary design stage, public input was sought in many forums by Placer County personnel, who have attended 11 citizen group meetings, held two public workshops, and sent three newsletters to more than 500 recipients. A project web page was created, including a project location map, project description, background information, and a news section. Three press releases about the proposed project have been issued.

Public involvement and input also is integral to the environmental review process. There are several key periods during the preparation of the EA/Draft EIR during which agencies and the public have had or will have the opportunity to comment on the proposed action and participate in the environmental review process:

- **Scoping comment period.** Placer County distributed a notice of preparation of an EIR/EA (NOP) in April 2002, to identify issues of concern regarding the proposed project and to incorporate comments received from the public and agencies into the EA/Draft EIR impact analysis (Appendix B). The distribution of an NOP is required under CEQA when a lead agency is preparing an EIR.

  The Initial Study distributed with the NOP identified the following topics as less than significant under CEQA:

- land use and planning
- population and housing (excluding growth-inducing impacts)
- energy
- fire hazards and other public safety hazards
- public services (e.g., police enforcement, schools)
- utilities and service systems

Based on comments received on the NOP, no analysis in these areas is required; therefore, topics analyzed in this document are transportation and circulation, air quality, hydrology/water quality, noise, visual resources/aesthetics, biological resources, earth resources, and cultural resources.

In response to the NOP and the Public Outreach Program conducted by Placer County, more than 75 written comments have been received regarding the proposed project. In general, citizens indicated a strong interest in Alternative 2, Widen Roadway to the East, and a combination of the "best" of Alternatives 1–3. This combination idea was developed into Alternative 4, the County DPW–Preferred Alternative (see Chapter 2). Citizens also expressed concern about the potential noise impacts of the proposed project.

- **EA/Draft EIR comment period.** Placer County will conduct a public hearing to present the results of the EA/Draft EIR and to solicit additional public comments. The purpose of the meeting is to provide opportunities for agencies and the public to comment on or express concerns about the EA/Draft EIR. Members of the public are encouraged to comment on the EA/Draft EIR at the meeting or in writing. Written comments can be sent to:

  Lori Lawrence, Placer County Planning Department
  11414 B Avenue
  Auburn, CA 95603
  Telephone: 530/886-3000
  Fax: 530/886-3003
  ljlawren@placer.ca.gov

# Required Permits and Approvals

The discretionary actions required by the County as the lead agency under CEQA for project implementation are as follows.

- Certification of the EIR
- Approval of a proposed project/selection of the alternative
- Approval of final engineering designs and advertisement of construction bids
- Approval of right-of-way acquisition

- Approval to award the construction contract

The discretionary actions required by Reclamation as lead agency under NEPA for project implementation include the following.

- Approval of a FONSI
- Approval of right-of-way acquisition of Bureau of Reclamation land

This environmental document may be used by several other responsible or trustee agencies that also have review authority over the project. The various local, state, and federal agencies that may use this document are identified in Chapter 2, "Project Alternatives."

# Report Organization and Terminology

## Organization

This EA/Draft EIR is organized into the following chapters.

- The Executive Summary summarizes the proposed project alternatives, describes the environmentally superior alternative, and summarizes impacts and mitigation measures identified in this report.
- Chapter 1, "Introduction," provides an overview of this EA/Draft EIR and identifies the proposed project's purpose and need.
- Chapter 2, "Project Alternatives," describes the four alternatives analyzed in this report, as well as the No-Action Alternative.
- Chapters 3 through 11 present information about the current environmental conditions and regulatory setting relevant to a particular resource or topic and the effects of the project alternatives on environmental resources. The severity of effects is established using significance thresholds as identified by CEQA. Mitigation measures are presented that would reduce significant effects identified under CEQA to less-than-significant levels.
- Chapter 12, "Cumulative Impacts," describes the effects of the proposed project when considered with the similar effects of other past, present, and reasonably foreseeable future projects.
- Chapter 13, "Consultation, Coordination, and Integration with Other Federal Requirements," presents federal requirements (e.g., executive orders) and evaluates the proposed action in the context of these requirements.
- Chapter 14, "List of Preparers," lists the people involved in preparing this EA/Draft EIR.
- Chapter 15, "References Cited," lists printed references and personal communications cited in the text of this report.

- Technical appendices are bound separately in Volume 2 and Volume 3.

# Terminology

To assist readers in understanding this EA/Draft EIR, terms used are defined as follows:

- *Environment* means the physical conditions that exist in the area and that would be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved is the area in which significant direct or indirect impacts would occur as a result of the project. The environment includes both natural and artificial conditions.
- *Significant* impact on the environment, as defined by CEQA, means a substantial, or potentially substantial, adverse change in any of the physical conditions in the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.
- *Impacts* comprise:
  a. Direct or primary effects that are caused by the proposed action and occur at the same time and place.
  b. Indirect or secondary effects that are caused by the proposed action and are later in time or farther removed, but are still reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems.
- *Mitigation* consists of:
  a. avoiding the impact altogether by not taking a certain action or parts of an action;
  b. minimizing impacts by limiting the degree or magnitude of the action and its implementation;
  c. rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
  d. reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and/or
  e. compensating for the impact by replacing or providing substitute resources or environments.

This environmental document identifies the two following types of mitigation measures:

- *Proposed mitigation measures* are measures that the Placer County DPW, as project proponent, is either proposing as part of the project design or has agreed to implement.
- *Recommended mitigation measures* are measures that are identified in this environmental document but that the Placer County DPW has not chosen to implement, and which may be required by the Placer County Board of Supervisors if the project is approved.

This environmental document uses a variety of terms to describe the level of significance of adverse impacts. These terms are defined as follows:

- *Less-than-significant impact under CEQA:* An impact that is adverse but that does not exceed the defined thresholds of significance under CEQA. Less-than-significant impacts do not require mitigation.
- *Potentially significant impact under CEQA:* An impact that may or may not be adverse, for example, potential disturbance of undiscovered cultural resources may be significant if a resource is discovered; however, if a resource is not discovered, the impact is less than significant.
- *Significant impact under CEQA:* An impact that exceeds the defined thresholds of significance and would or could cause a substantial adverse change in the environment. Mitigation measures are recommended to eliminate the impact or reduce it to a less-than-significant level.
- *Significant and unavoidable impact under CEQA:* An impact that exceeds the defined thresholds of significance and cannot be eliminated or reduced to a less-than-significant level through the implementation of mitigation measures.

Chapter 2
# Project Alternatives

## Introduction

Both NEPA and CEQA require that decision makers consider reasonable alternatives to proposed projects to avoid significant environmental effects. Section 1502.14 of the Council on Environmental Quality Regulations for Implementing NEPA states that the alternatives analysis "should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public." Section 15126(d) of the State CEQA Guidelines requires that an EIR describe a range of reasonable alternatives to a project that would "feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." Alternatives must be considered, even if they might impede to some degree the attainment of the project objectives or make it more costly. The point of considering alternatives is not to identify a different project to be developed, but to provide a basis for comparison and to foster informed decisions.

Placer County has performed preliminary engineering and design studies on four alternatives that best meet the objectives of the proposed project. These alternatives and the No-Build Alternative are described in this chapter. Pursuant to NEPA, the alternatives under consideration were analyzed at an equal level of detail. Because the No-Build Alternative does not satisfy the project objectives, it is presented and evaluated primarily as a baseline set of conditions to which the other alternatives can be compared.

Additional information about the design of the four alternatives can be found in the Preliminary Design Report for the Auburn-Folsom Road 4-Lane Widening Project (August 21, 2002) and the Preliminary Design Report Supplement for the Auburn-Folsom Road 4-Lane Widening Project (September 16, 2002). Copies of these reports are on file at the Placer County Department of Public Works offices and can be reviewed during normal business hours.

# Project Location and Project Limits

The project area is located in southeast Placer County, with Folsom Lake immediately to the east and the City of Folsom to the south. The project limits extend from the Placer County/Sacramento County line north to Douglas Boulevard, a distance of approximately 3.2 kilometers (2 miles) (Figures 2-1 and 2-2).

The Folsom Lake State Recreation Area (SRA) extends along the southeastern portion of the project corridor. This portion of the Folsom Lake SRA represents the southernmost and westernmost part of the 7,280-hectare (18,000-acre) recreation area, which is owned by the U.S. Department of the Interior, Bureau of Reclamation and managed by the State of California Department of Parks and Recreation. The SRA receives over 2.5 million visitors annually. Facilities in the SRA include campgrounds, bike trails, and equestrian trails, as well as sites designated for fishing, boating, and water-skiing. Facilities near the project corridor include a bike trail, an equestrian trail, campgrounds, and the Beal's Point entrance to Folsom Lake.

# Description of Existing Circulation Network

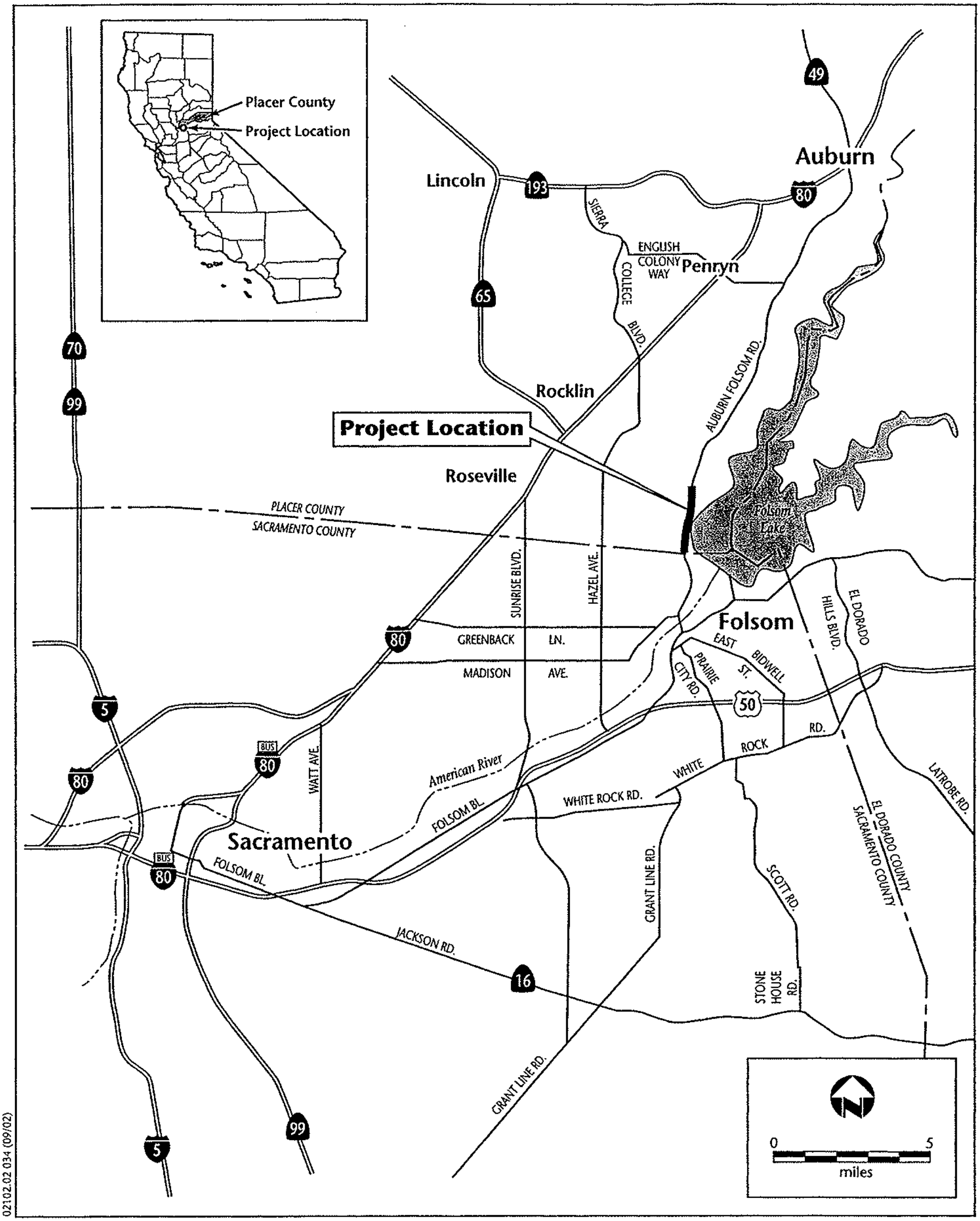
Brief descriptions of the key circulation facilities in the project area are provided below.

*Auburn-Folsom Road* is a two-lane, north-south roadway that begins at the Placer County/Sacramento County line and extends north to the City of Auburn. At the County line, the road's name changes to "Folsom-Auburn Road," and the roadway continues south to the City of Folsom. This roadway is one of a handful of routes that connect the northern Sacramento County, City of Folsom, and El Dorado Hills region with the south Placer County, City of Roseville, and Granite Bay area.

*Douglas Boulevard* is a four- and six-lane, east-west roadway that begins in the City of Roseville, crosses Interstate 80 (I-80), and extends through the Granite Bay area to the Folsom Lake SRA. An interchange is provided at I-80. An increasing amount of travelers on Douglas Road and Auburn-Folsom Road represent through traffic between the City of Folsom/El Dorado Hills and the City of Roseville area.

*Fuller Drive* is a two-lane east-west collector street that begins at Auburn-Folsom Road and connects to Bronson Drive. Fuller Drive serves a residential area that includes the Willma E. Cavitt Junior High School.

*Eureka Road* is a two-lane east-west collector street in the Granite Bay area of Placer County. Eureka Road begins as a six-lane roadway at I-80 in the City of Roseville. After crossing Douglas Boulevard, Eureka Road becomes a four-lane roadway. Upon crossing Sierra College Boulevard, Eureka Road becomes a two-

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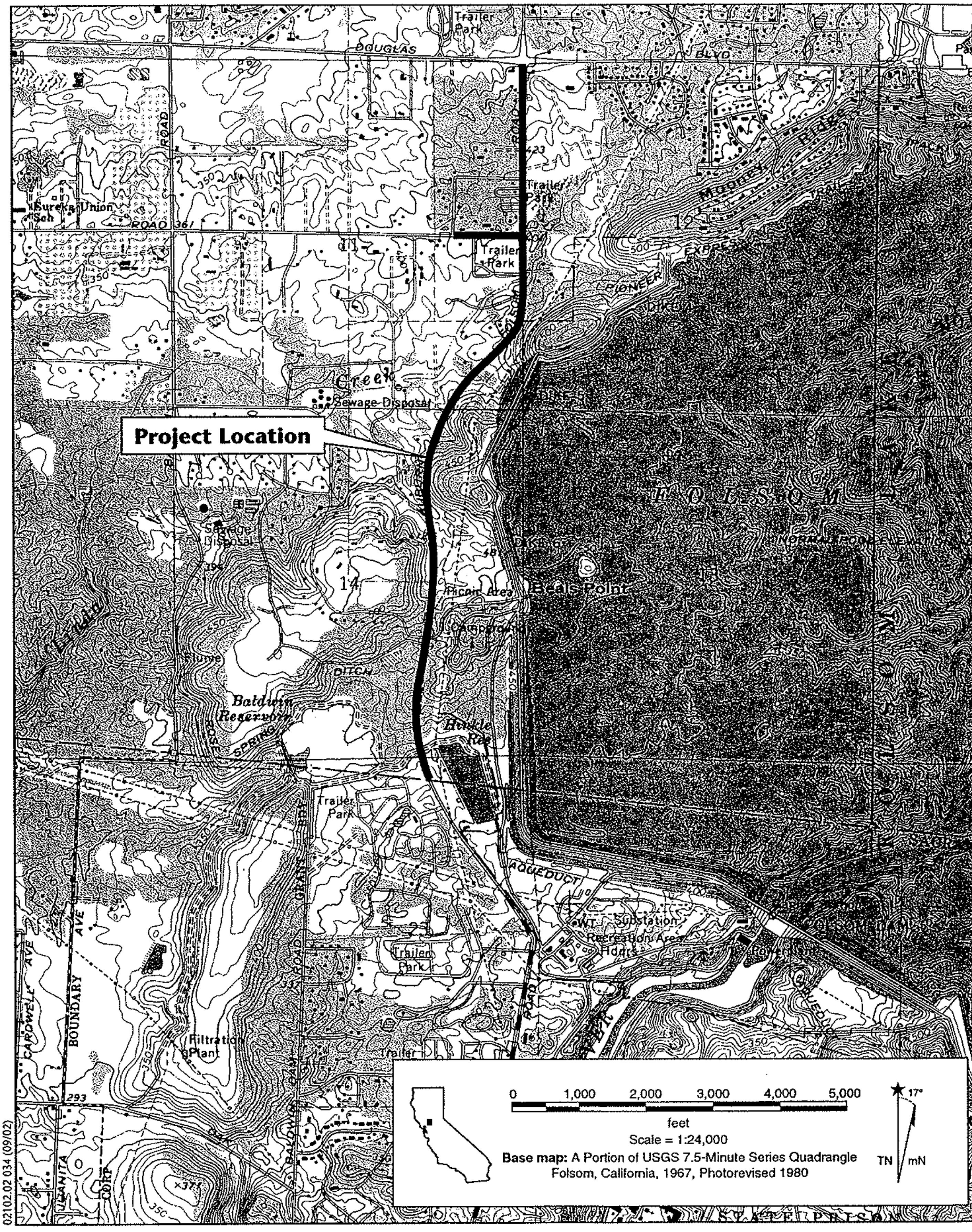
Jones & Stokes

**Figure 2-1**
**Regional Location Auburn-Folsom Widening Project**




Jones & Stokes

**Figure 2-2**
**Project Location**

lane roadway and turns at Wellington Way. Eureka Road terminates at Auburn-Folsom Road at a signalized intersection.

*Oak Hill Drive* is a two-lane residential street that begins at Barton Road, proceeds through the Folsom Lake Estates subdivision, and ends at Auburn-Folsom Road at a signalized intersection. The Beal's Point entrance to the Folsom Lake SRA forms the fourth leg of this intersection at Auburn-Folsom Road.

# Description of Proposed Build Alternatives

As stated earlier, four build alternatives are analyzed at an equal level of detail in this EA/Draft EIR:

- Alternative 1: Widen Roadway to the West
- Alternative 2: Widen Roadway to the East
- Alternative 3: Widen Roadway Equally on Both Sides
- Alternative 4: County DPW-Preferred Alternative

In addition, this report evaluates the potential impacts of the No-Build Alternative.

## Proposed Improvements Common to All Build Alternatives

The following information is common to all build alternatives.

The proposed project would widen approximately 3.2 kilometers (2.0 miles) of Auburn-Folsom Road from two lanes to four lanes from the Placer County/Sacramento County line to Douglas Boulevard. The road widening would generally follow the existing alignment. Improvements proposed include

- adding a travel lane in each direction, resulting in four 3.6-meter-wide (12-foot-wide) travel lanes;
- adding a 4.2-meter-wide (14-foot-wide) center lane that may include two-way left-turn lanes and/or raised or painted medians in many or all roadway segments;
- providing 1.8-meter-wide (6-foot-wide) shoulders with Class II bicycle lanes on each side of the road;
- redesigning the horizontal and vertical curve north of Lou Place to improve the sight distance to achieve a design speed of 88 kph (55 mph) (Alternatives 1, 2, and 3) or a design speed of 80 kph (50 mph) (Alternative 4);

- installing curb, gutter, and sidewalk at certain locations;
- constructing/improving a multi-use/equestrian trail on the west side of Auburn-Folsom Road, from the Baldwin Reservoir access road to the Oak Hill Drive intersection;
- constructing a new traffic signal at the Fuller Road intersection;
- improving traffic signal operations at the Eureka Road and Oak Hill Drive intersections;
- restriping Auburn-Folsom Road between Fuller Drive and Douglas Boulevard to accommodate the alignment of Auburn-Folsom Road south of Fuller Drive; and
- implementing sight-distance improvements along Eureka Road approximately 300 meters (980 feet) west of the Auburn-Folsom Road/Eureka Road intersection. Approximately 190 meters (620 feet) would be lowered by approximately 1 meter (3 feet) to improve the vertical sight distance along this portion of Eureka Road. This improvement would allow residents of the Ridgeview Mobile Home Park to use the Eureka Road driveway, which is currently gated. Reopening this driveway will allow the residents to enter and exit to Eureka Road, thereby allowing for the extension of the northbound left-turn lane and a raised or painted median on the northbound approach to the Auburn-Folsom Road/Eureka Road intersection.

In addition to these improvements, the County may need to replace or move the entrance sign to Beal's Point and fencing along the SRA. DPR has requested that the County install "no parking" signs on the shoulder of Auburn-Folsom Road and consider assisting State Parks and Reclamation with replacement of the existing t-post and wire fence along the road to improve the visual quality of the corridor (Nakaji pers. comm.).

# Project Information Common to All Build Alternatives

The following information is common to all alternatives.

## Median Design Options

Each of the proposed build alternatives includes construction of a 4.2-meter-wide (14-foot-wide) median. The median will be designed as a two-way left-turn lane or a painted and/or raised median. It is possible that the design of the median will vary along the project length. Portions of the median may be landscaped to improve the visual quality of the widened roadway. Landscaping, if provided, may be native vegetation that is drought tolerant and similar to the native vegetation on the adjacent SRA lands, or perhaps more formal.

The County has identified a median design option that includes prohibition of U-turns at various locations, as described in Chapter 3.

## Construction Information

The primary geotechnical concern for any of the alternatives is to what degree the rock can be excavated in the proposed roadway areas. In the opinion of Anderson Consulting Group (which prepared a preliminary geotechnical report for the Preliminary Design Report), blasting will likely be required to facilitate cut excavation. The amount of blasting necessary will depend on factors such as the degree of rock weathering and hardness, spacing of joints and fractures that will allow ripper-tooth penetration, and the type of excavation equipment the contractor selects for the project.

Construction would involve new roadbed construction and cut and removal of material from along the roadway. Excavations may be 4–6 meters (13–20 feet) deep, depending on the alternative roadway alignment selected.

Removal of excess material and construction of the new roadway would involve the use of the following heavy- and light-duty construction equipment: bulldozers (CAT D8R or larger) and single- or multi-shanked rippers.

At least one construction staging area will be required for the contractor to store equipment and materials during construction. One temporary construction staging area has been identified at the south end of the project corridor, on the west side of the road, opposite the San Juan Water District offices. This area is currently undeveloped and was used as the construction staging area for an unrelated project, completed in 2001. Two temporary construction staging area sites have been identified at the north end of the project alignment, just south of Fuller Drive. Both temporary construction staging areas would be located on the east side of the road.

The anticipated construction schedule is as follows:

- Complete preliminary design—2002
- Complete environmental review—2003
- Complete final design—2003/2004
- Advertise and award bids—spring 2004
- Start construction—2004

It is anticipated that the project would require 18 months to construct. The project would be implemented in its entirety during two construction seasons. The Placer County Department of Public Works Standard Construction Specifications require that one lane in each direction be open at all times. A traffic management plan would be required with any of the build alternatives.

## Right-of-Way Acquisition

Placer County will need to acquire right-of-way along the project alignment. Right-of-way would be acquired under the Uniform Relocation Assistance and Real Property Acquisition Policies Act.

## Utility Relocation Information

On April 2, 2001, the Placer County Department of Public Works sent an "A" letter to utility companies known to have facilities in the Granite Bay community. The "A" letter is the first letter in the "ABC Plan" developed by the American Public Works Association for the coordination of public improvement projects. In general, utilities are responsible for relocating their facilities if they are located in a public right-of-way. In response to Placer County's "A" letter, the utility companies provided maps and descriptions of their facilities in the project area.

The following utility companies and agencies have facilities in the project area:

- Pacific Gas and Electric Company (PG&E)
    - a 10-centimeter (4-inch) north-south underground gas line near the Lou Place intersection, terminus unknown
    - pole-mounted electrical transmission equipment in the County's right-of-way on the west side of Auburn-Folsom Road
- Roseville Telephone
    - pole-mounted equipment in the County's right-of-way on the west side of Auburn-Folsom Road
- Starstream Communications
    - pole-mounted equipment in the County's right-of-way on the west side of Auburn-Folsom Road
- AT&T Communications
    - fiber-optic cable generally running along the western edge of Auburn-Folsom Road—cable is approximately 1.2 meters (4 feet) underground
- San Juan Water District
    - underground equipment and pipelines that cross under Auburn-Folsom Road at the County line
    - underground pipelines next to Auburn-Folsom Road north of Country Court
    - a pump station with a driveway that forms the eastern approach to the Eureka Road intersection

- City of Roseville
  - 152-centimeter (60-inch) raw water line that crosses under Auburn-Folsom Road next to the Placer/Sacramento County line

During the final design phase of the proposed action, Placer County will coordinate further with utilities regarding accurately locating existing facilities and relocating them.

# Description of Alternatives

Preliminary design drawings of Alternatives 1–4 are included in Appendix A.

## Alternative 1: Widen Roadway to the West

Alternative 1 proposes to widen Auburn-Folsom Road to the west. The existing southbound and northbound travel lanes would become northbound lanes under this alternative. A median/two-way left-turn lane and two southbound lanes would be added to the west. Both the horizontal and vertical elements of the curve north of Lou Place would be redesigned to achieve a design speed of 88 kph (55 mph). The volume of material to be excavated under Alternative 1 is 65,200 cubic meters (85,278 cubic yards). Approximately 2.06 hectares (5.10 acres) of land would need to be acquired from portions of 35 parcels, with an estimated 6.5% of the needed area coming from Reclamation land. The total estimated project cost of this alternative is $9,950,000.

## Alternative 2: Widen Roadway to the East

Alternative 2 proposes to widen Auburn-Folsom Road to the east. The existing southbound and northbound travel lanes would become southbound lanes under this alternative. A median/two-way left-turn lane and two northbound lanes would be added to the east. Both the horizontal and vertical elements of the curve north of Lou Place would be redesigned to achieve a design speed of 88 kph (55 mph). The volume of material to be excavated under Alternative 2 is 83,300 cubic meters (108,952 cubic yards). Approximately 2.21 hectares (5.45 acres) of land would need to be acquired from portions of 9 parcels, with an estimated 57% of the needed area coming from Reclamation land. The total estimated project cost of this alternative is $10,775,000.

## Alternative 3: Widen Roadway Equally on Both Sides

Alternative 3 proposes to widen Auburn-Folsom Road equally on both sides. The existing southbound and northbound travel lanes would become the median and center lanes under this alternative. Structural roadway sections would be added to both sides of the existing pavement. Both the horizontal and vertical elements of the curve north of Lou Place would be redesigned to achieve a design speed of 88 kph (55 mph). The volume of material to be excavated under Alternative 3 is 72,100 cubic meters (94,303 cubic yards). Approximately 1.15 hectares (2.83 acres) of land would need to be acquired from portions of 21 parcels, with an estimated 19% of the needed area coming from Reclamation land. The total estimated project cost of this alternative is $9,819,000.

# Alternative 4: County DPW–Preferred Alternative

The Placer County Department of Public Works developed Alternative 4 based on input received from the public, a detailed review of the positive and negative impacts of each of the three original alternatives, and initial data results from the environmental studies conducted during the environmental review step of the project development process. The intent of the County was to develop an alternative that minimized the negative impacts of the three original alternatives while maintaining the original project goals and objectives. The impacts were reduced by adjusting the alignment at various locations along the proposed route.

Alternative 4 includes all the proposed roadway capacity improvements described for Alternatives 1, 2, and 3, with the exception that the design speed of the curve just north of Lou Place has been reduced from 88 kph (55 mph) (used for Alternatives 1, 2, and 3) to 80 kph (55 mph). This change in design speed reduces size of the lateral cut and fill slopes.

Alternative 4 is primarily a combination of Alternatives 2 and 3. Alternative 4 would widen Auburn-Folsom Road to the east of the existing alignment, starting at the Placer County line, and would transition to widening equally on both sides near the Auburn-Folsom Road/Oak Hill Drive/Beal's Point intersection. From just north of Oak Hill Drive to Lou Place, the alignment transitions to an easterly widening, then back to widening equally on both sides at the major cut just north of Lou Place. Between the cut north of Lou Place and Country Court, the alignment again transitions to widening to the east, then back again to widening equally on both sides to reduce impacts on the Linda Creek wetland area. North of Country Court, the alignment slowly transitions easterly again to the Auburn-Folsom Road/Eureka Road intersection, then stays to the east to match the existing Auburn-Folsom Road/Fuller Drive intersection.

The Alternative 4 preliminary design plans include the installation of retaining walls as a design option to reduce the size of the cut and fill slopes at many locations. The cost estimate and right-of-way needs, however, are based on the scenario without retaining walls.

The volume of material to be excavated under Alternative 4 is 62,900 cubic meters (82,270 cubic yards). Approximately 1.25 hectares (3.09 acres) of land would need to be acquired from portions of 10 parcels, with an estimated 33% of the needed area coming from Reclamation land. The total estimated project cost of this alternative is $9,320,000.

# No-Build Alternative

Under the No-Build Alternative (also called the "no-project" alternative), Placer County would not widen Auburn-Folsom Road in the project area at this time. The no-project scenario would represent denial of the project's build alternatives but would not preclude action by the County to construct the build alternatives at a later date.

Under the No-Build Alternative ("future conditions" without-project scenario), the level of service for all four study segments of Auburn-Folsom Road would be unacceptable (LOS F). Drivers on Auburn-Folsom Road would experience jammed conditions and excessive delays during a significant portion of the day. In addition, all of the study intersections would operate at LOS F during the p.m. peak hour. Furthermore, operation-related air-quality impacts would be more adverse under the No-Build Alternative (compared to the four build alternatives) because the intersections would be more congested, potentially creating carbon monoxide impacts. It also is assumed that the road would not be resurfaced and pavement type would not change. As described in Chapter 3, "Transportation and Circulation," traffic volumes on Auburn-Folsom Road would increase regardless of project implementation. Future noise volumes would increase in proportion to this traffic increase. The pavement treatment proposed for use in the project would produce a 3–5 decibel noise reduction when compared to the existing surface. Therefore, the No-Build Alternative would result in higher future noise volumes when compared with the build alternatives.

Under the No-Build Alternative, the bikeway and trail network in the project area would not be modified. The project would upgrade the bikeway along Auburn-Folsom Road, from the County line north to Douglas Boulevard, from a Class III to a Class II bikeway. Also, the project would improve an equestrian trail on the west side of Auburn-Folsom Road from the County line north to Oak Hill Drive. Impacts on trails would be greater under the No-Build Alternative because these proposed improvements would not occur.

The Linda Creek culvert would not be improved and there would be no further evaluation of upstream and downstream flow and flooding. Field observations suggest that water has overtopped Auburn-Folsom Road and contributed to bank instability. Without improvement, flood events would continue to overtop the road and contribute to bank scouring and water quality degradation, as well as disruption of traffic flow.

However, visual quality impacts would be less adverse under the No-Build Alternative (compared to the four build alternatives) because no trees would be removed, the road would not be widened, no soundwalls or retaining walls would be built, and no changes in topography would take place. Furthermore, the biological resources impacts associated with the proposed project would not occur. Biological impacts would be less adverse under the No-Build Alternative (compared to the four build alternatives) because no trees would be removed, no wetlands would be disturbed, and no other habitat would be affected.

## Summary Comparison of Build Alternatives

Table 2-1 presents a summary comparison of the design information relevant to each build alternative as well as the advantages and disadvantages of each build alternative as identified by the Placer County DPW.

# Required Entitlements, Permits, and Coordination

The information provided in this environmental document may be used by the following agencies in granting entitlements, permits, or agreements for the project.

- **Placer County Board of Supervisors**: Certification of the EIR and approval of one of the alternatives as described in this document.
- **U.S. Bureau of Reclamation**: Approval of a Finding of No Significant Impact (FONSI) and approval of one of the alternatives as described in this document.
- **U.S. Army Corps of Engineers (Corps):** Issuance of a nationwide Section 404 permit under the Clean Water Act.
- **U.S. Fish and Wildlife Service (USFWS):** Completion of Section 7 consultation under the federal Endangered Species Act (ESA) for potential impacts on valley elderberry longhorn beetle (VELB).
- **California Department of Fish and Game (DFG):** Issuance of a Section 1601 streambed alteration agreement under the California Fish and Game Code.
- **State Water Resources Control Board (SWRCB):** Issuance of a Clean Water Act Section 402 National Pollutant Discharge Elimination System general construction activities stormwater permit.
- **Central Valley Regional Water Quality Control Board (RWQCB):** Issuance of a Clean Water Act Section 401 water quality certification or waiver, as required for a Section 404 permit.

# Related Project

The following roadway project is considered a "related" project because it is directly related to the proposed project. It is, however, considered an independent project that can be constructed with or without the proposed project.

## Folsom-Auburn Road Widening Project

The City of Folsom, with the cooperation of the Federal Highway Administration (FHWA), the California Department of Transportation (Caltrans), and Placer

**Table 2-1.** Summary Comparison of Build Alternatives



| Design Issue | Alternative 1: Widen to the West | Alternative 2: Widen to the East | Alternative 3: Widen Equally on Both Sides | Alternative 4: County DPW–Preferred Alternative |
|---|---|---|---|---|
| Design speed | 55 mph | 55 mph | 55 mph | 50 mph |
| Amount of right-of-way to be acquired | 2.06 hectares (5.10 acres) | 2.21 hectares (5.45 acres) | 1.15 hectares (2.83 acres) | 1.25 hectares (3.09 acres) |
| Number of parcels affected by right-of-way acquisition | 35 parcels | 9 parcels | 21 parcels | 10 parcels |
| Amount of land coming from the Bureau | 6.5% | 57% | 19% | 33% |
| Amount of earthwork without retaining walls | 65,200 cubic meters (85,278 cubic yards) | 83,300 cubic meters (108,952 cubic yards) | 72,100 cubic meters (94,303 cubic yards) | 62,900 cubic meters (82,270 cubic yards) |
| Estimated project cost | $9,950,000 | $10,775,000 | $9,819,000 | $9,320,000 |
| **Advantages** | | | | |
| Traffic capacity | Provides adequate capacity for projected traffic volumes | Provides adequate capacity for projected traffic volumes | Provides adequate capacity for projected traffic volumes | Provides adequate capacity for projected traffic volumes |
| Extent of widening | Requires significant widening on only one side of the existing roadway | Requires significant widening on only one side of the existing roadway | | |
| Extent of excavation | Requires less excavation than Alternatives 2 or 3 | | Requires more excavation than Alternative 1 but less than Alternative 2 | Requires the least amount of earthwork |
| Ease of construction | Widening on one side is easier to construct than widening on both sides | Widening on one side is easier to construct than widening on both sides | | |
| Right-of-way requirements | Requires the least amount of land from the Bureau | Requires the acquisition of right-of-way from nine parcels (lowest of the four alternatives) | Requires right-of-way from more parcels than Alternative 2 but less than Alternative 1 | Uses the existing right-of-way efficiently and requires the least amount of right-of-way from private (nongovernmental) property owners along the corridor<br>Requires the acquisition of right-of-way easements from 10 parcels |
| Tree impacts | | | | Reduces the number of trees affected by the project between the county line and Oak Hill Drive |

**Table 2-1.** Continued



| Design Issue | Alternative 1: Widen to the West | Alternative 2: Widen to the East | Alternative 3: Widen Equally on Both Sides | Alternative 4: County DPW–Preferred Alternative |
|---|---|---|---|---|
| Noise impacts | | Residents on west side consider this alternative the most desirable because of the perceived decrease in noise associated with moving the roadway "away" from their residences | | |
| Wetland impacts | | | | Reduces the impacts on the Linda Creek wetland area to the east while minimizing the impacts on residences on the west side, near Country Court |
| Environmental disturbance and consequent cost | | | | Reduces the required cut just north of Lou Place; reduces the level of environmental disturbance in this area and the cost of the project |

**Table 2-1.** Continued



| Design Issue | Alternative 1: Widen to the West | Alternative 2: Widen to the East | Alternative 3: Widen Equally on Both Sides | Alternative 4: County DPW–Preferred Alternative |
|---|---|---|---|---|
| **Disadvantages** | | | | |
| Extent of excavation | | Requires the most excavation | | |
| Ease of construction | | | Is more difficult to construct and may take longer to construct than Alternatives 1 or 2<br>With the addition of a raised median, very little of the existing pavement would remain; therefore, it may be more efficient to reconstruct the entire cross section. Very similar to Alternative 4 | Is more difficult to construct and may take longer to construct than Alternatives 1 and 2, but is superior to Alternative 3<br>With the addition of a raised median, very little of the existing pavement would remain; therefore, it may be more efficient to reconstruct the entire cross section. Very similar to Alternative 3 |
| Right-of-way requirements | | Requires the most right-of-way from the Bureau | | |
| Noise impacts | Residents on west side consider this alternative the least desirable because of the perceived increase in noise associated with moving the roadway "closer" to their residences | | | |
| Environmental disturbance and consequent cost | | Requires the largest cut slope on the east side of the roadway, just to the north of Lou Place | | |
| Traffic control | | | Traffic would be more difficult to control during construction and significant traffic delays may result | Traffic would be more difficult to control during construction than Alternatives 1 and 2 and significant traffic delays, similar to Alternative 3, may result |

Placer County Department of Public Works 2002a, 2002b

County, has proposed to improve Folsom-Auburn Road from a point 60 meters (200 feet) south of its intersection with Folsom Dam Road in the City of Folsom to a termination point approximately 245 meters (800 feet) north of the Placer County line. Improvements include widening the roadway from two lanes to four, adding turning lanes at intersections in the project corridor, adding bicycle lanes on both sides of the roadway, and constructing a separated pedestrian walkway/bicycle path along the west side of the roadway. The total length of this project is approximately 1.2 kilometers (0.75 mile).

The City of Folsom prepared an EA/EIR and Section 4(f) evaluation for the project in 2002. Copies of the environmental document can be reviewed at the City of Folsom Department of Public Works offices during normal business hours.

This project is considered directly related to, but independent of, the proposed project. The City of Folsom can construct this project without Placer County constructing the proposed project and vice versa.

The City of Folsom has proposed to construct a 61-meter-long (200-foot-long), 2.5-meter-high (8-foot-high) solid noise barrier (also referred to as a soundwall) along the property lines of approximately two Wiley Court residences that back onto Auburn-Folsom Road.

Chapter 3
# Transportation and Circulation

This chapter, prepared by Fehr & Peers Associates, Inc. and Placer County staff, describes the transportation and circulation impacts associated with the proposed widening of Auburn-Folsom Road in Placer County, California. As presented in Chapter 1 and Chapter 2, Placer County is proposing to widen Auburn-Folsom Road from two through lanes to four through lanes between the Placer County/Sacramento County line and Fuller Drive, and restripe Auburn-Folsom Road between Fuller Drive and Douglas Boulevard to accommodate the alignment of Auburn-Folsom Road south of Fuller Drive. The transportation impact analysis focuses on potential impacts of the widening to the roadway, bicycle, pedestrian, and equestrian components of the transportation system in the vicinity of the proposed project. Mitigation measures are identified to offset any potential impacts.

This chapter is organized in three sections. The first two sections are the environmental and regulatory settings. The environmental setting describes the existing transportation system, and the regulatory setting describes the existing transportation laws and regulations that apply to the project. The third section describes the impact analysis and identifies specific impacts of the project and the associated mitigation measures.

## Affected Environment

### Environmental Setting

Widening Auburn-Folsom Road would change the physical and operational characteristics of the existing corridor. The extent of the change will be used to measure potential impacts. Therefore, the environmental setting describes the existing transportation system, which will provide reviewers with a baseline context for the potential impacts identified later in this section.

#### Existing Transportation System

The existing transportation system in the vicinity of the proposed project primarily consists of roadways, limited bicycle and pedestrian facilities, and equestrian trails. The roadways are the primary transportation facilities in the study area. Bicyclists, pedestrians, and equestrians also rely on these roadways and the shoulders for travel. Additionally, some facilities exist for the use of pedestrians and equestrians. A detailed description of the roadways in the study area is provided below, followed by discussions relative to other modes, including transit, bicycles, pedestrians, and equestrians.

# Roadway System

Figure 3-1 shows the Auburn-Folsom Road study corridor and the major intersections selected for analysis as part of this study. Auburn-Folsom Road is classified as a major arterial in the Placer County General Plan, August 1994. Arterials link highways, communities and major activity centers and, as defined in the General Plan, are "primary circulation routes for through traffic." According to the Placer County General Plan, urban and suburban major arterials are to provide at least a four-lane cross section.

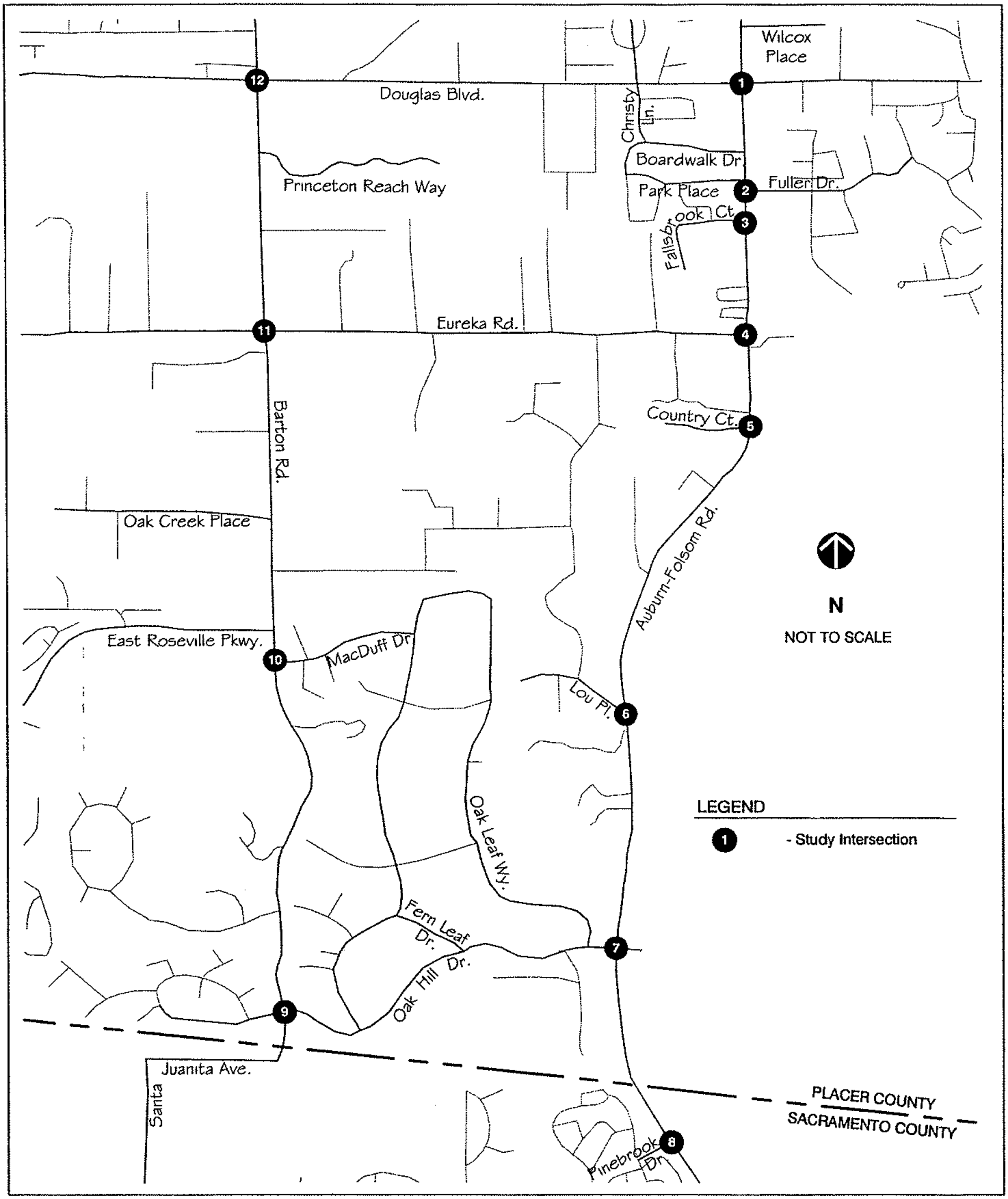
For this analysis, impacts on study roadways were determined by measuring the effect that the project has on traffic volumes, traffic operations at key intersections during peak hour conditions, and on roadway segments under daily conditions. The following intersections and roadway segments were selected for analysis by the Placer County DPW.

## Intersections

1. Auburn-Folsom Road/Douglas Boulevard;
2. Auburn-Folsom Road/Fuller Drive;
3. Auburn-Folsom Road/Fallsbrook Court;
4. Auburn-Folsom Road/Eureka Road;
5. Auburn-Folsom Road/Country Court;
6. Auburn-Folsom Road/Lou Place;
7. Auburn-Folsom Road/Oak Hill Drive;
8. Auburn-Folsom Road/Pinebrook Drive;
9. Barton Road/Oak Hill Drive;
10. Barton Road/MacDuff Drive;
11. Barton Road/Eureka Road; and
12. Barton Road/Douglas Boulevard.

## Roadway Segments

13. Auburn-Folsom Road – Douglas Boulevard to Fuller Drive;

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Dec 02, 2002 MJF
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**PROJECT STUDY INTERSECTIONS**

**FIGURE 3-1**

14. Auburn-Folsom Road – Fuller Drive to Eureka Road;
15. Auburn-Folsom Road – Eureka Road to Country Court;
16. Auburn-Folsom Road – Country Court to Oak Hill Drive;
17. Auburn-Folsom Road – Oak Hill Drive to Pinebrook Drive;
18. Barton Road – County line to Oak Hill Drive;
19. Barton Road – Oak Hill Drive to MacDuff Drive;
20. Barton Road – MacDuff Drive to East Roseville Parkway;
21. Barton Road – East Roseville Parkway to Eureka Road;
22. Barton Road – Eureka Road to Douglas Boulevard;
23. Oak Hill Drive – West of Fern Leaf Drive;
24. MacDuff Drive – MacDuff Court to Oak Leaf Way;
25. Eureka Road – Auburn-Folsom Road to Barton Road; and
26. Douglas Boulevard – Auburn-Folsom Road to Barton Road.

## Analysis Methodology

Transportation professionals typically describe vehicle traffic operating conditions for roadways and intersections in terms of "level of service" (LOS). LOS is a common, qualitative measurement of the effect that various factors have on traffic operations. Typical factors include speed, travel time, traffic interruptions, freedom to maneuver, and safety. The LOS for intersections and roadways ranges from "A" (the best) to "F" (the worst). Empirical LOS criteria and methods of calculation have been developed by the Transportation Research Board (TRB) and documented in the *Highway Capacity Manual* (HCM), 2000. The TRB LOS definitions and calculations are the prevailing measurement standard used throughout the United States and are used in this study. The 2000 HCM methods identify LOS based on the control delay per vehicle for signalized intersections and for each minor movement for two-way stop-controlled intersections. Tables 3-1 and 3-2 relate the LOS designation to a general description of traffic operations at signalized and unsignalized intersections, respectively. Technical Appendix P, "Traffic Data," contains all LOS technical calculations.

The daily LOS for roadway segments is based on maximum daily volume thresholds developed for the Placer County General Plan. Table 3-3 provides the maximum daily volume thresholds for roadway segments by LOS.

**TABLE 3-1**
**SIGNALIZED INTERSECTION LOS CRITERIA**

| LOS | Average Control Delay (seconds/vehicle) | Description |
|---|---|---|
| A | ≤ 10.0 | Very low delay. Most vehicles do not stop. |
| B | > 10.0 to 20.0 | Generally good progression of vehicles. Slight delays. |
| C | > 20.0 to 35.0 | Fair progression. Increased number of stopped vehicles. |
| D | > 35.0 to 55.0 | Noticeable congestion. Large portion of vehicles stopped. |
| E | > 55.0 to 80.0 | Poor progression. High delays and frequent cycle failure. |
| F | > 80.0 | Oversaturation. Forced flow. Extensive queuing. |

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

**TABLE 3-2**
**UNSIGNALIZED INTERSECTION LOS CRITERIA**

| LOS | Average Control Delay (seconds/vehicle) | Description |
|---|---|---|
| A | ≤ 10.0 | Little or no conflicting traffic for minor street approach. |
| B | > 10.0 to 15.0 | Minor street approach begins to notice presence of available gaps. |
| C | > 15.0 to 25.0 | Minor street approach begins experiencing delay for available gaps. |
| D | > 25.0 to 35.0 | Minor street approach experiences queuing due to a reduction in available gaps. |
| E | > 35.0 to 50.0 | Extensive minor street queuing due to insufficient gaps. |
| F | > 50.0 | Insufficient gaps of suitable size to allow minor street traffic demand to cross safely through the major traffic stream. |

Sources: *Highway Capacity Manual*, Transportation Research Board, 2000,
Fehr & Peers, 2002.

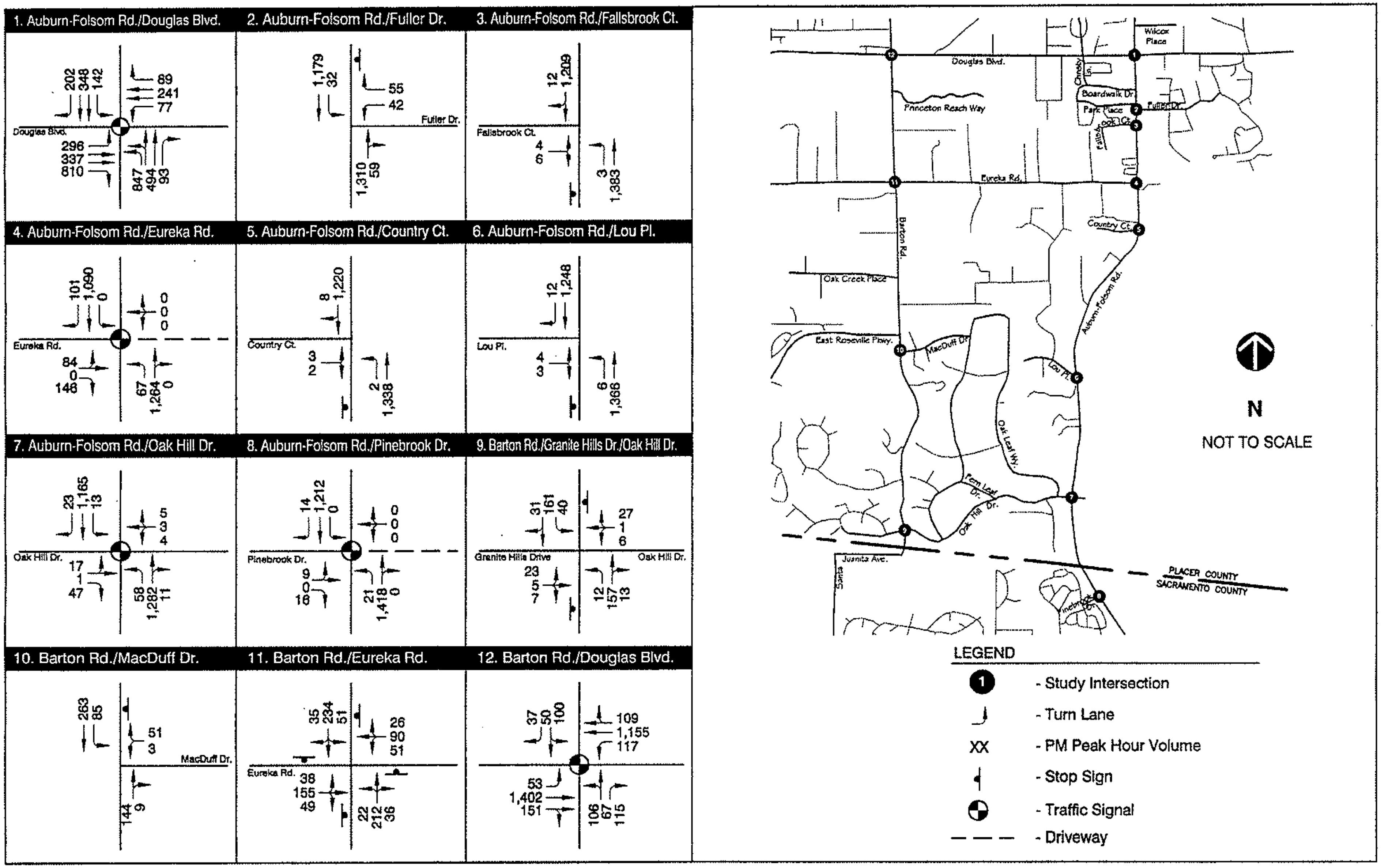
**TABLE 3-3**
**DAILY ROADWAY SEGMENT LOS CRITERIA**

| Roadway Type | Lanes | Maximum Daily Two-Way Traffic Volume | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | E |
| Arterial – Low Access Control (A-LAC) | 2 | 9,000 | 10,500 | 12,000 | 13,740 | 15,000 |
| Arterial – High Access Control (A-HAC) | 2 | 12,000 | 14,000 | 16,000 | 18,000 | 20,000 |
| | 4 | 24,000 | 28,000 | 32,000 | 36,000 | 40,000 |

Sources: Placer County General Plan Update, General Plan Background Report, Volume 1, August 16, 1994
Fehr & Peers, 2002

## Existing Traffic Operations

Figure 3-2 shows existing lane configurations and p.m. peak hour traffic volumes at the study intersections. The analysis methodology described above along with the input data from Figure 3-2 was used to measure existing p.m. peak hour traffic operations for the study intersections. Table 3-4 contains the existing LOS and delay results for the study intersections.

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**PM PEAK HOUR TRAFFIC VOLUMES - EXISTING CONDITIONS**

**FIGURE 3-2**

**TABLE 3-4**
**INTERSECTION LEVELS OF SERVICE – EXISTING CONDITIONS**

| Intersection | Control | PM Peak Hour Worst-case Movement[1] Delay[2] | PM Peak Hour Worst-case Movement[1] LOS | PM Peak Hour Overall Delay[2] | PM Peak Hour Overall LOS |
|---|---|---|---|---|---|
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 35.1 | D |
| 2. Auburn-Folsom Road/Fuller Drive | Side-street Stop | 37.8* | E* | 1.7* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street Stop | > 50.0* | F* | 0.6* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | 30.6* | C* |
| 5. Auburn-Folsom Road/Country Court | Side-street Stop | > 50.0* | F* | 0.3* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street Stop | > 50.0* | F* | 0.5* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | 31.2* | C* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 11.4* | B* |
| 9. Barton Road/Oak Hill Drive | Side-street Stop | 13.7 | B | 2.7 | A |
| 10. Barton Road/MacDuff Drive | Side-street Stop | 10.0 | B | 2.2 | A |
| 11. Barton Road/Eureka Road | All-way Stop | 18.4 | C | 16.1 | C |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | 49.2 | D |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.
* An asterisk indicates intersections that are influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.

Source: Fehr & Peers, 2002

In some cases, the reported LOS does not match field observed conditions. Specific locations include:

- Auburn-Folsom Road/Fuller Drive;
- Auburn-Folsom Road/Fallsbrook Court;
- Auburn-Folsom Road/Eureka Road;
- Auburn-Folsom Road/Country Court;
- Auburn-Folsom Road/Lou Place;
- Auburn-Folsom Road/Oak Hill Drive; and
- Auburn-Folsom Road/Pinebrook Drive.

At these locations, queuing from the Auburn-Folsom Road/Folsom Dam Road intersection, which is downstream of the Auburn-Folsom Road/Pinebrook Drive intersection, extends into the study intersection. As a result, the intersection analysis results only provide the LOS for the volume of traffic that actually enters the intersection; the actual LOS is worse.

Table 3-5 contains the existing average daily traffic (ADT) and LOS results for the study roadway segments. This information is also presented graphically in Figure 3-3.

**TABLE 3-5**
**ROADWAY SEGMENT DAILY LEVELS OF SERVICE – EXISTING CONDITIONS**

| Roadway Segment | Roadway Type | Number of Lanes | ADT | LOS |
|---|---|---|---|---|
| Auburn-Folsom Road – Douglas Boulevard to Fuller Drive | A-HAC | 4** | 27,900 | B |
| Auburn-Folsom Road – Fuller Drive to Eureka Road | A-HAC | 2 | 28,800 | F |
| Auburn-Folsom Road – Eureka Road to Country Court | A-HAC | 2 | 28,300 | F |
| Auburn-Folsom Road – Country Court to Oak Hill Drive | A-HAC | 2 | 28,400 | F |
| Auburn-Folsom Road – Oak Hill Drive to Pinebrook Drive | A-HAC | 2 | 28,900 | F |
| Barton Road – County Line to Oak Hill Drive | A-LAC | 2 | 3,700 | A |
| Barton Road – Oak Hill Drive to MacDuff Drive | A-LAC | 2 | 4,500 | A |
| Barton Road – East Roseville Parkway to Eureka Road | A-LAC | 2 | 7,000 | A |
| Barton Road – Eureka Road to Douglas Boulevard | A-LAC | 2 | 7,700 | A |
| Oak Hill Drive – Oak Leaf Way to Fern Leaf Drive | Local Road | 2 | 800 | * |
| MacDuff Drive – MacDuff Court to Oak Leaf Way | Local Road | 2 | 1,400 | * |
| Eureka Road – Auburn-Folsom to Barton Road | A-LAC | 2 | 4,300 | A |
| Douglas Boulevard – Auburn-Folsom Road to Barton Road | A-HAC | 4 | 35,400 | D |

A-HAC = Arterial –High Access Control
A-LAC = Arterial – Low Access Control

* The Placer County General Plan does not identify LOS for local roads.
** Auburn-Folsom Road transitions from 4 to 2 lanes through this section.

Source: Fehr & Peers, 2002

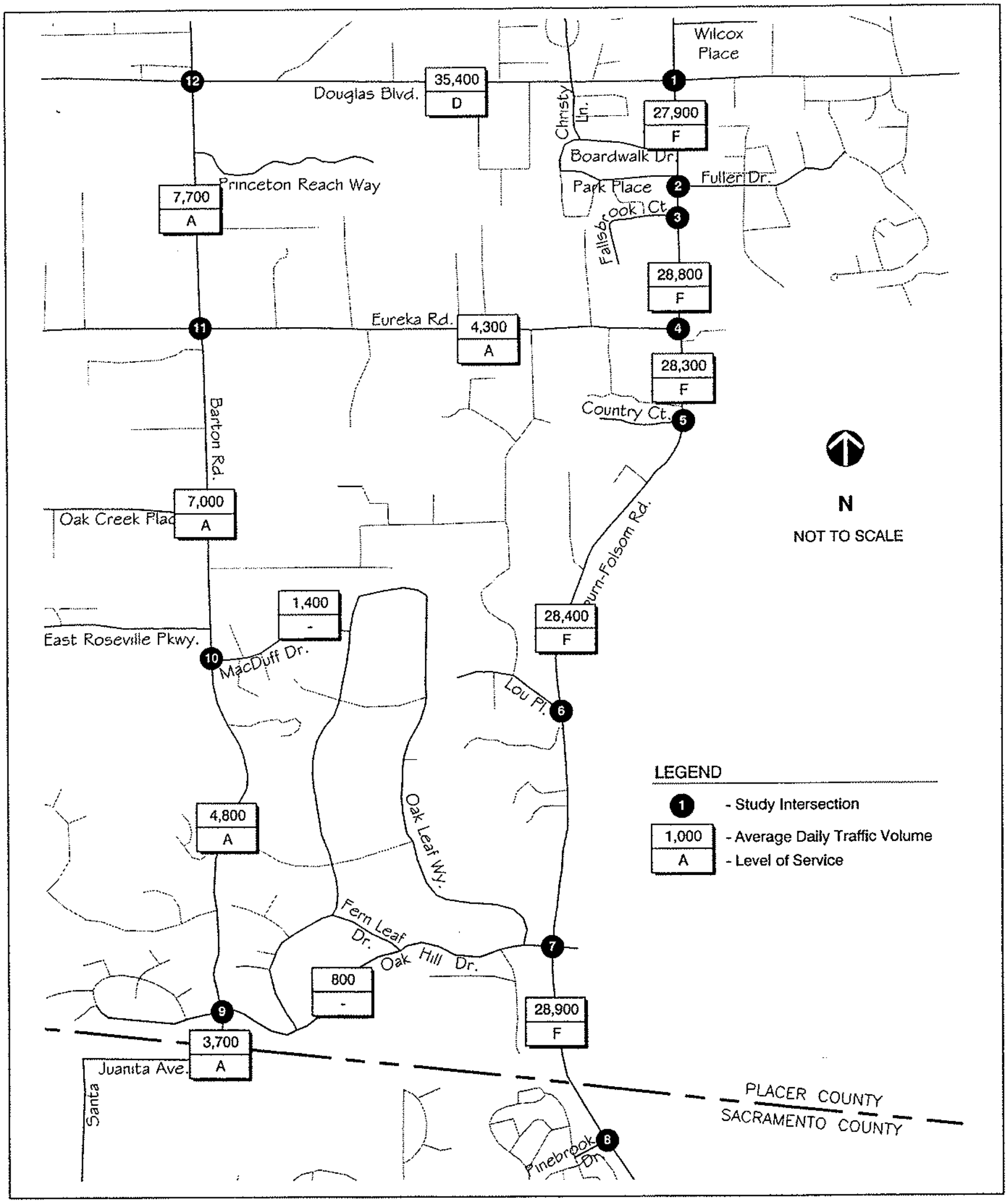
## Transit System

No transit service is currently provided in the study corridor. The City of Folsom provides a fixed-route service on Folsom-Auburn Road south of the study corridor.

## Bicycle/Pedestrian System

There are several facilities for bicycles and pedestrians in the study area. Figure 3-4 displays the following existing facilities:

- Class III bike routes extend along both sides of Auburn-Folsom Road between Pinebrook Drive and Fallsbrook Court. Class II bike lanes exist on Auburn-Folsom Road south of Pinebrook Drive and north of Fallsbrook Court.
- Class II bike lanes extend along both sides of East Roseville Parkway west of Barton Road.
- A sidewalk is provided on the west side of Auburn-Folsom Road from Fallsbrook Court north through the Country Gables Shopping Center and on the east side from Fuller Drive north to Wilcox Place.

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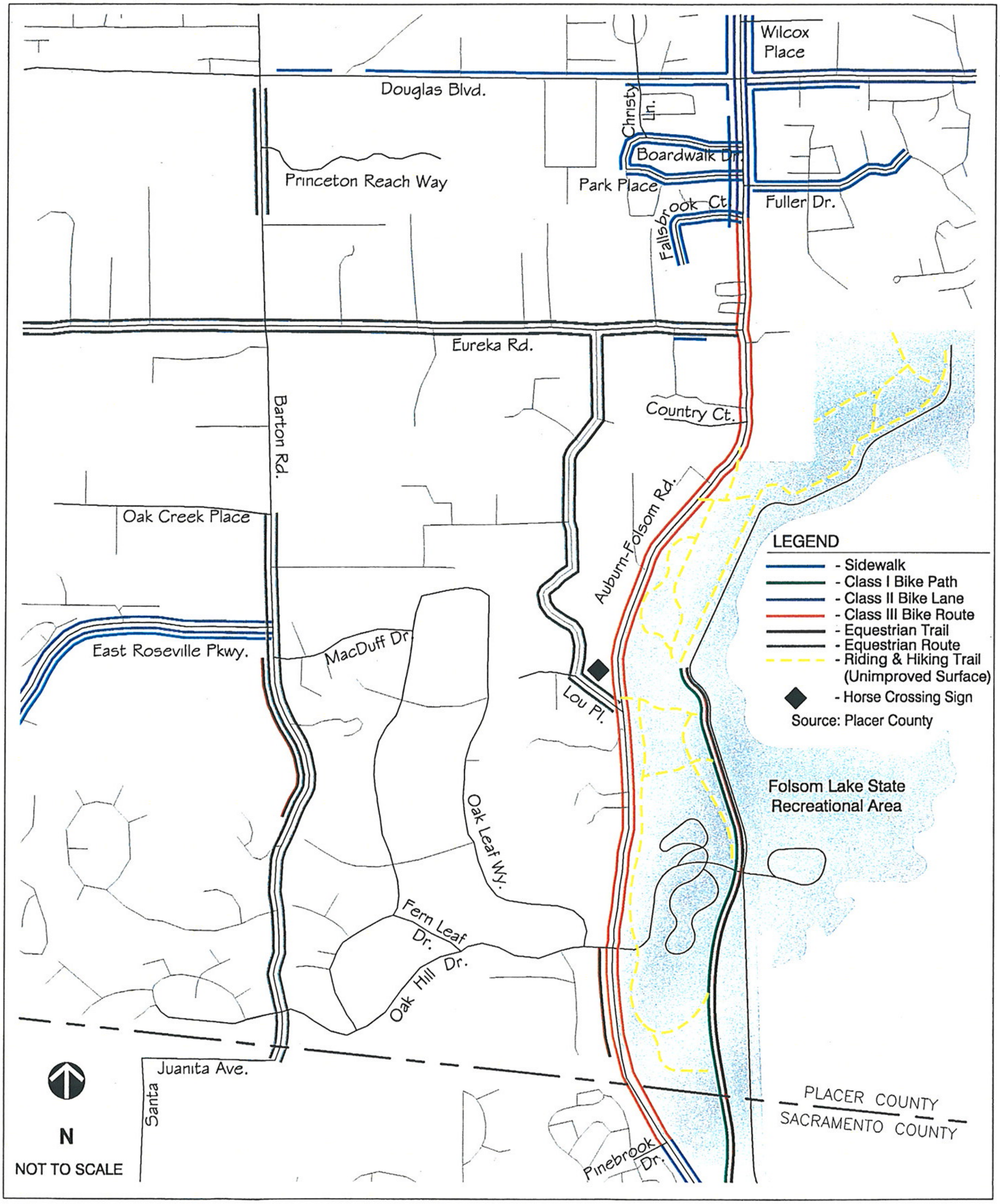
**AVERAGE DAILY TRAFFIC VOLUMES - EXISTING CONDITIONS**

**FIGURE 3-3**

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**EXISTING PEDESTRIAN AND RECREATIONAL SYSTEM**

**FIGURE 3-4**

- A sidewalk is provided on the south side of Douglas Boulevard from Auburn-Folsom Road west to Christy Lane. A sidewalk is provided on portions of the north side of Douglas Boulevard between Auburn-Folsom Road and Barton Road.
- A sidewalk is provided on the south side of East Roseville Parkway west of Barton Road.
- Sidewalks are provided along both sides of Boardwalk Drive, Park Place, Fallsbrook Court, and Fuller Drive in the vicinity of the project.
- A short segment of sidewalk is provided on the south side of Eureka Road west of Auburn-Folsom Road.
- Controlled crossings exist for bicyclists and pedestrians to cross Auburn-Folsom Road at Douglas Boulevard, Eureka Road, and Oak Hill Drive.

### Equestrian System

A unique component of the transportation system in the study corridor is equestrian trails. The Folsom Lake State Recreation Area is an attractive riding destination, and equestrians use the trail network within this area. As shown in Figure 3-4, equestrian trails parallel portions of Eureka Road, Barton Road, Purdy Lane/Lou Place, and Auburn-Folsom Road. Consistent with the Granite Bay Community Plan, there is an equestrian trail along the west side of Auburn-Folsom Boulevard south of Oak Hill Drive and an equestrian route west of Auburn-Folsom Road between Eureka Road and Lou Place. Controlled crossings exist for equestrians to cross Auburn-Folsom Road at Douglas Boulevard, Eureka Road, and Oak Hill Drive.

# Regulatory Setting

Existing transportation policies, laws, and regulations that would apply to the proposed project are summarized below. This information provides a context for the impact discussion related to the project's consistency with applicable regulatory conditions.

## Local Regulations

Applicable local regulations can be found in the Placer County General Plan and the Granite Bay Community Plan.

## Placer County General Plan

**Policy 3.A.1.** The County shall plan, design, and regulate roadways in accordance with the functional classification system described in Part I of the Policy Document and reflected in the Circulation Plan Diagram.

**Policy 3.A.2.** Streets and roads shall be dedicated, widened, and constructed according to the roadway design and access standards generally defined in Section I of this Policy Document and, more specifically, in community plans and the County's *Highway Deficiencies Report*.

**Policy 3.A.3.** The County shall require that roadway rights-of-way be wide enough to accommodate the travel lanes needed to carry long-range forecasted traffic volumes (beyond 2010), as well as any planned bikeways and required drainage, utilities, landscaping, and suitable separations.

**Policy 3.A.4.** On arterial roadways and thoroughfares, intersection spacing should be maximized. Driveway encroachments along collector and arterial roadways shall be minimized. Access control restrictions for each class of roadway in the county are specified in Part I of this Policy Document.

**Policy 3.A.5.** Through-traffic shall be accommodated in a manner that discourages the use of neighborhood roadways, particularly local streets. This through-traffic, including through truck traffic, shall be directed to appropriate routes in order to maintain public safety and local quality of life.

**Policy 3.A.7.** The County shall develop and manage its roadway system to maintain the following minimum levels of service.

a. LOS "C" on rural roadways, except within one-half mile of state highways where the standard shall be LOS "D".

b. LOS "C" on urban/suburban roadways except within one-half mile of state highways where the standard shall be LOS "D".

The County may allow exceptions to these level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.
- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.

- Construction and right-of-way acquisition costs.
- The impacts on general safety.
- The impacts of the required construction phasing and traffic maintenance.
- The impacts on quality of life as perceived by residents.
- Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards.

Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.

**Policy 3.A.9.** The County shall work with neighboring jurisdictions to provide acceptable and compatible levels of service and joint funding on the roadways that may occur on the circulation network in the Cities and the unincorporated area.

**Policy 3.A.10.** The County shall strive to meet the level of service standards through a balanced transportation system that provides alternatives to the automobile.

**Policy 3.A.11.** The County shall plan and implement a complete road network to serve the needs of local traffic.

**Policy 3.A.13.** The County shall secure financing in a timely manner for all components of the transportation system to achieve and maintain adopted level of service standards.

**Policy 3.D.1.** The County shall promote the development of a comprehensive and safe system of recreational and commuter bicycle routes that provides connections between the county's major employment and housing areas and between its existing and planned bikeways.

**Policy 3.D.2.** The County shall work with neighboring jurisdictions to coordinate planning and development of the County's bikeways and multi-purpose trails with those of neighboring jurisdictions.

**Policy 5.C.1.** The County shall support development of a countywide trail system designed to achieve the following objectives:

a. Provide safe, pleasant, and convenient travel by foot, horse, or bicycle;

b. Link residential areas, schools, community buildings, parks, and other community facilities within residential developments. Whenever possible, trails should connect to the countywide trail system, regional trails, and the trail or bikeways plans of cities;

c. Provide access to recreation areas, major waterways, and vista points;

d. Provide for multiple uses (i.e., pedestrian, equestrian, bicycle);

e. Use public utility corridors such as power transmission line easements, railroad rights-of-way, irrigation district easements, and roadways;

f. Whenever feasible, be designed to separate equestrian trails from cycling paths, and to separate trails from the roadway by the use of curbs, fences, landscape buffering, and/or spatial distance;

g. Connect commercial areas, major employment centers, institutional uses, public facilities, and recreational areas with residential areas; and

h. Protect sensitive open space and natural resources.

## Granite Bay Community Plan

**Policy III.B.3.** Encourage scenic or greenbelt corridors along major transportation routes. Roads and other public works shall incorporate beauty as well as utility, safety, and economy.

**Goal V.A.5.** "Through" traffic which must pass through the community shall be accommodated in a manner that will not encourage the use of residential or private roads, paths, or trails. "Through" traffic shall be directed to appropriate routes (such as Auburn-Folsom Road, etc.) in order to maintain the community's rural quality and natural environment and to provide for public safety. Local areas within the community shall be connected to main paths, trails, and thoroughfares in adjoining areas.

**Policy V.A.10.** The level of service (LOS) on major roadways (i.e., arterial and collector routes) and intersections identified in the CIP shall be at Level "C" or better.

Note that the *Southeast Placer County Transportation Study* (DKS Associates) recommended that the level of service policies in the Granite Bay Community Plan be modified to allow exceptions to the LOS C standard where improvements that would be required to achieve LOS C would result in unacceptable impacts. The *Southeast Placer County Transportation Study* recommended a LOS exception for Auburn-Folsom Road and that Auburn-Folsom Road be widened to four lanes from the County line to just north of Douglas Boulevard. The study also recommended that four lanes be maintained on Douglas Boulevard between Auburn-Folsom Road and Cavitt-Stallman South Road but that right-of-way for six lanes be preserved and that turn lanes to provide LOS D conditions be provided at the Auburn-Folsom Road/Douglas Boulevard intersection. The exceptions to the LOS standard recommended in the *Southeast Placer County Transportation Study* are in accordance with General Plan Policy 3.A.7.

**Policy V.A.13.** Roads shall be designed and maintained to encourage safe, alternative forms of transportation that contribute to a rural atmosphere (such as: walking, bicycling, riding, and public transportation).

### Recreation Element

**Policy II.7.** To promote the establishment of a connected trail system for bicyclist, equestrian, and pedestrian use.

# Environmental Consequences

## Criteria for Determining Significance under CEQA

A transportation/circulation impact is considered significant if implementation of the project would result in any of the following actions.

### Roadway System

- Cause the construction year (2005) or cumulative year (2020) "no-project" level of service (LOS) at an intersection or on a roadway segment to deteriorate from A, B, or C to D, E, or F.
- Cause the construction year or cumulative year "no-project" volume on a "local" road to exceed 2,000 vehicles per day (vpd).
- Exacerbate the construction year or cumulative year "no-project" LOS D, E or F conditions at an intersection or on a roadway segment.
- Exacerbate conditions on an impacted "local" road by adding trips to the construction year or cumulative year "no-project" volumes.
- Create inconsistencies with adopted roadway system plans, guidelines, policies, or standards of Placer County.

### Transit System

- Disrupt existing transit services or facilities.
- Interfere with planned transit services or facilities.
- Create inconsistencies with adopted transit system plans, guidelines, policies, or standards of Placer County.

### Bicycle, Pedestrian, and Equestrian System

- Disrupt existing bicycle, pedestrian, or equestrian facilities.
- Interfere with planned bicycle, pedestrian, or equestrian facilities.
- Create inconsistencies with adopted bicycle, pedestrian, or equestrian system plans, guidelines, policies, or standards of Placer County.

## Methods and Assumptions for the Impact Analysis

The transportation impact analysis focused on p.m. peak hour traffic operations at the study intersections under each alternative but also considered potential effects on non-auto travel modes. The analysis includes the no-project conditions (2005 and 2020), the basic group of "build" alternatives, and a raised median design project option, as defined by Placer County DPW.

As presented in Chapters 1 and 2, Placer County has identified four build alternatives that are analyzed at an equal level of detail in this EA/Draft EIR.

- Alternative 1: Widen Roadway to the West
- Alternative 2: Widen Roadway to the East
- Alternative 3: Widen Roadway Equally on Both Sides
- Alternative 4: County DPW-Preferred Alternative

Each of these alternatives would widen Auburn-Folsom Road from two to four lanes and would have the following commonalities so that only one traffic analysis for all the alternatives was required:

- same access points
- same median design (striped median allowing unlimited left turns)
- signalization of the Auburn-Folsom Road/Fuller Drive intersection
- coordination of the traffic signals on Auburn-Folsom Road at Douglas Boulevard, Fuller Drive, and Eureka Road, and
- possible elimination of left-turn access to and from Auburn-Folsom Road at the mobile home park south of Eureka Road. The County will lower the vertical curve on Eureka Road west of the mobile home park's driveway as part of the project to improve the sight distance at the Eureka Road driveway and allow that access to be opened.

The County also has identified a raised median design option that consists of the installation of a raised median on Auburn-Folsom Road from Douglas Boulevard to the County line with median openings for left-turns at Boardwalk Drive, Fuller Drive, Eureka Road, Country Court, Lou Place, and Oak Hill Drive. Left-turns at other locations, such as Fallsbrook Court, would be eliminated. The raised median design project option is assumed to allow for U-turns only at the signalized intersections on Auburn-Folsom Road. All other project design information for the raised median design option is the same as identified above.

In addition to the build alternatives, this analysis included a "no-project" scenario. As defined in Chapter 2, the "no-project" scenario would only represent denial of the project's build alternatives at this time and would not preclude action by the County to construct the build alternatives at a later date.

The traffic operations analysis was conducted for construction year (2005) conditions and cumulative year (2020) conditions. Traffic forecasts for cumulative conditions were developed using the Southeast Placer County travel demand model developed by DKS Associates for the Southeast Placer County Transportation Study. Fehr & Peers added detail to the roadway network and modified free-flow speeds to better reflect travel patterns in the study area. The cumulative year (2020) Southeast Placer County travel demand model does not include a new American River crossing (to replace Folsom Dam Road). This improvement is identified in the 2025 Metropolitan Transportation Plan as a "Tier 1" project and is anticipated by 2010 but has yet to receive any secured funding. At the direction of County staff, we assumed that the new American River crossing would not be constructed by 2020.

The City of Folsom's project to widen Folsom-Auburn Road from two to four lanes from Folsom Dam Road to the Placer County line has been included in the analysis. The Folsom-Auburn Road widening project is included in the Sacramento Area Council of Governments (SACOG) 1999 Metropolitan Transportation Plan and the 2000-2001 Metropolitan Transportation Improvement Program. Although the Folsom-Auburn Road widening project will increase the capacity at the Folsom-Auburn Road/Folsom Dam Road intersection, the Draft Environmental Assessment/Environmental Impact Report prepared by the City of Folsom (June 2002) states that this intersection will operate at LOS F under Year 2025 conditions with the project. The Folsom-Auburn Road widening project does not include the provision of additional southbound left-turn or westbound right-turn capacity to accommodate the heavy traffic flows using Folsom Dam Road. Therefore, the Folsom-Auburn Road/Folsom Dam Road intersection will continue to affect traffic operations through the study corridor.

Traffic forecasts for construction year conditions were developed using a linear interpolation between the existing traffic counts and the cumulative conditions forecasts.

## Traffic Operations Analysis Results

Based on the geometrics, traffic controls, and traffic volume forecasts displayed in Figures 3-5 through 3-10, p.m. peak hour traffic operations at the study intersections were analyzed for "no-project," project, and raised median project option conditions. The results of the intersection analysis are summarized in Tables 3-6 through 3-11. Tables 3-12 through 3-15 summarize the results of the roadway segment analysis. The roadway segment analysis results are also presented graphically in Figures 3-11 through 3-14.

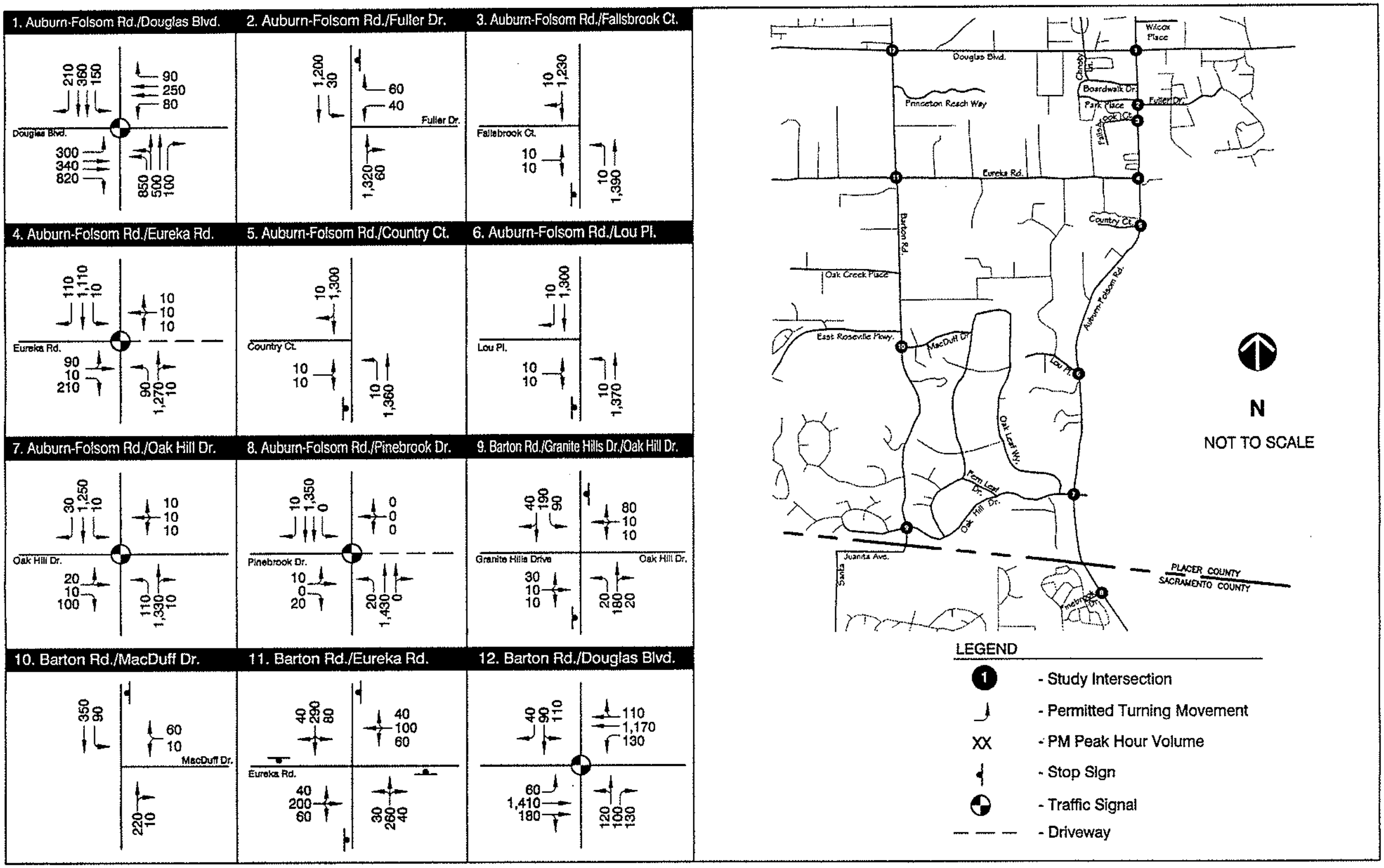
The LOS results were compared against the standards of significance to identify potential roadway system impacts of the project. For potential impacts on bicycle, pedestrian, and equestrian components of the transportation system, the physical aspects of the project were compared directly to the significance criteria, which consists primarily of an assessment of the project's consistency with regulatory conditions.

**TABLE 3-6**
**INTERSECTION LEVEL OF SERVICE –**
**CONSTRUCTION YEAR (2005) NO-PROJECT CONDITIONS**

| Intersection | Control | PM Peak Hour: Worst-case Movement[1] Delay[2] | PM Peak Hour: Worst-case Movement[1] LOS | PM Peak Hour: Overall Delay[2] | PM Peak Hour: Overall LOS |
|---|---|---|---|---|---|
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 40.9 | D |
| 2. Auburn-Folsom Road/Fuller Drive | Side-street Stop | 38.5* | E* | 1.6* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street Stop | > 50.0* | F* | 1.5* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | 55.6* | E* |
| 5. Auburn-Folsom Road/Country Court | Side-street Stop | > 50.0* | F* | 1.6* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street Stop | > 50.0* | F* | 1.6* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | 45.9* | D* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 3.4* | A* |
| 9. Barton Road/Oak Hill Drive | Side-street Stop | 17.7 | C | 4.2 | A |
| 10. Barton Road/MacDuff Drive | Side-street Stop | 11.1 | B | 2.0 | A |
| 11. Barton Road/Eureka Road | All-way Stop | 27.0 | D | 21.1 | C |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | 51.8 | D |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.
* An asterisk indicates intersections that are influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.
Source: Fehr & Peers, 2002

As shown in Table 3-6, the Auburn-Folsom Road/Douglas Boulevard and Barton Road/Douglas Boulevard intersections will operate at LOS D during the p.m. peak hour under construction year (2005) "no-project" conditions. The p.m. peak hour LOS will deteriorate to LOS E at the Auburn-Folsom Road/Eureka Road intersection and will deteriorate to LOS D at the Auburn-Folsom Road/Oak Hill Drive intersection under these conditions. The p.m. peak hour intersection LOS will improve at the Auburn-Folsom Road/Pinebrook Drive intersection due to the increased capacity from the City's Folsom-Auburn Road widening project.

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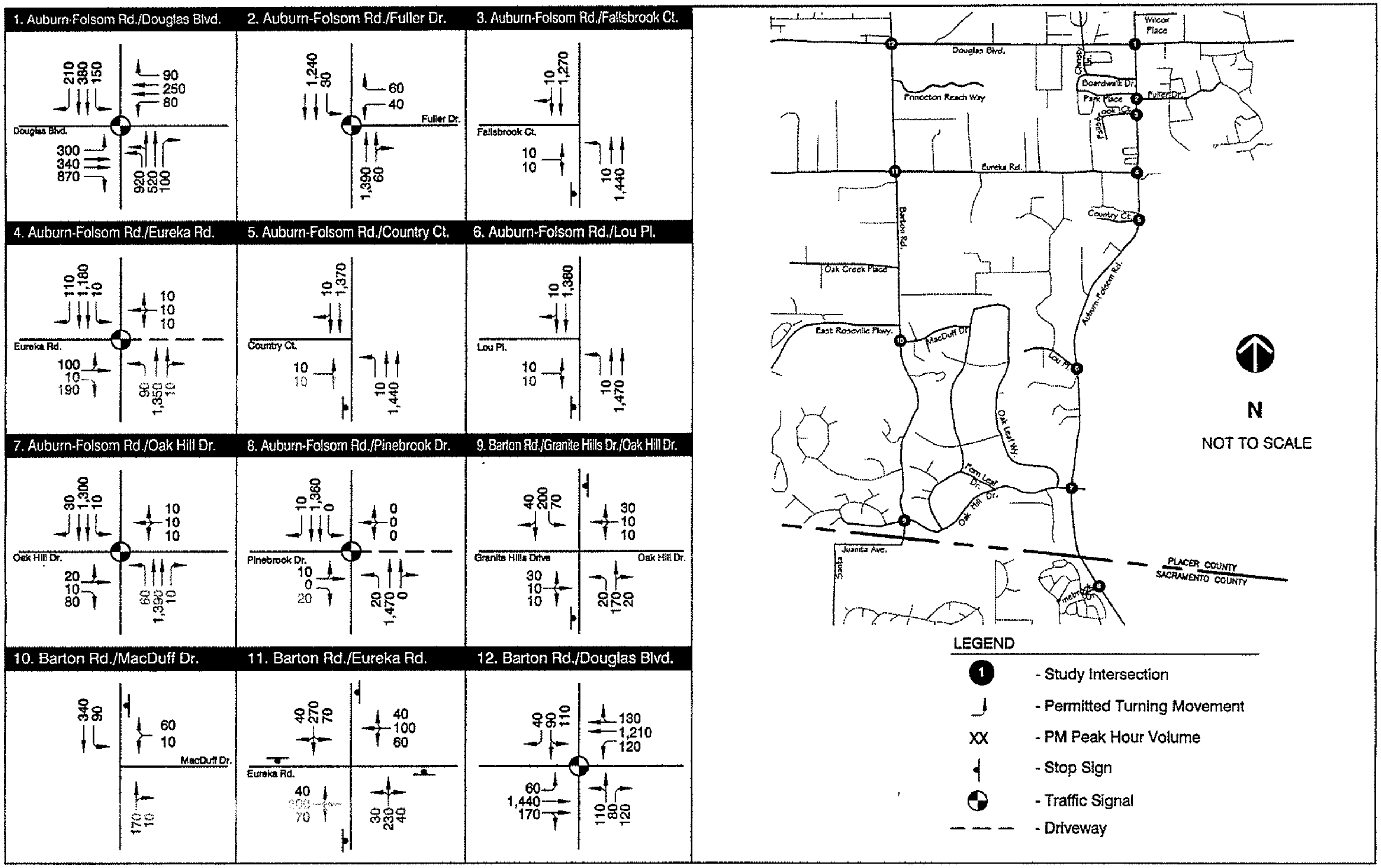
**PM PEAK HOUR TRAFFIC VOLUMES - CONSTRUCTION YEAR (2005) NO PROJECT CONDITIONS**

**FIGURE 3-5**

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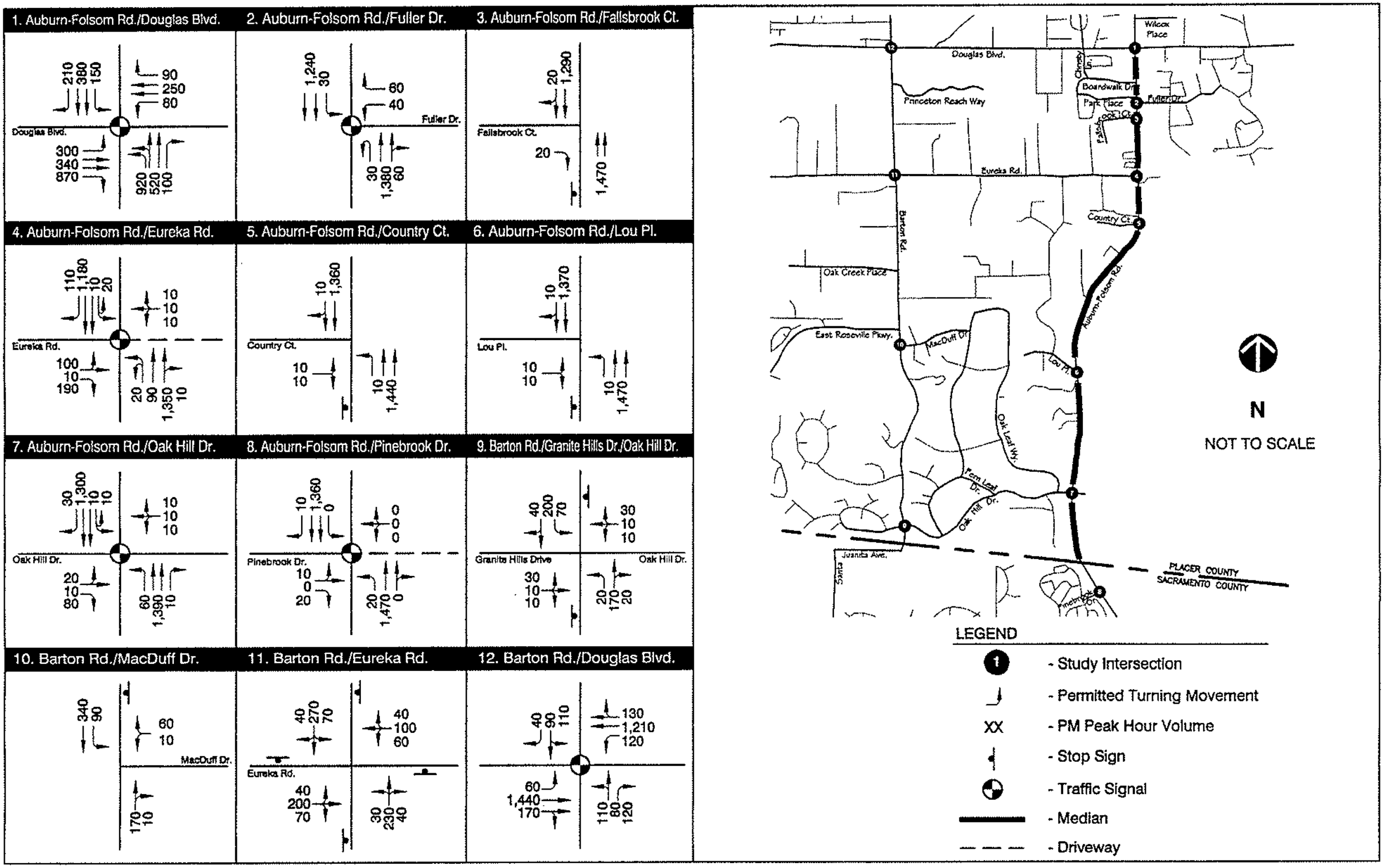
**PM PEAK HOUR TRAFFIC VOLUMES - CONSTRUCTION YEAR (2005) WITH PROJECT CONDITIONS**

**FIGURE 3-6**

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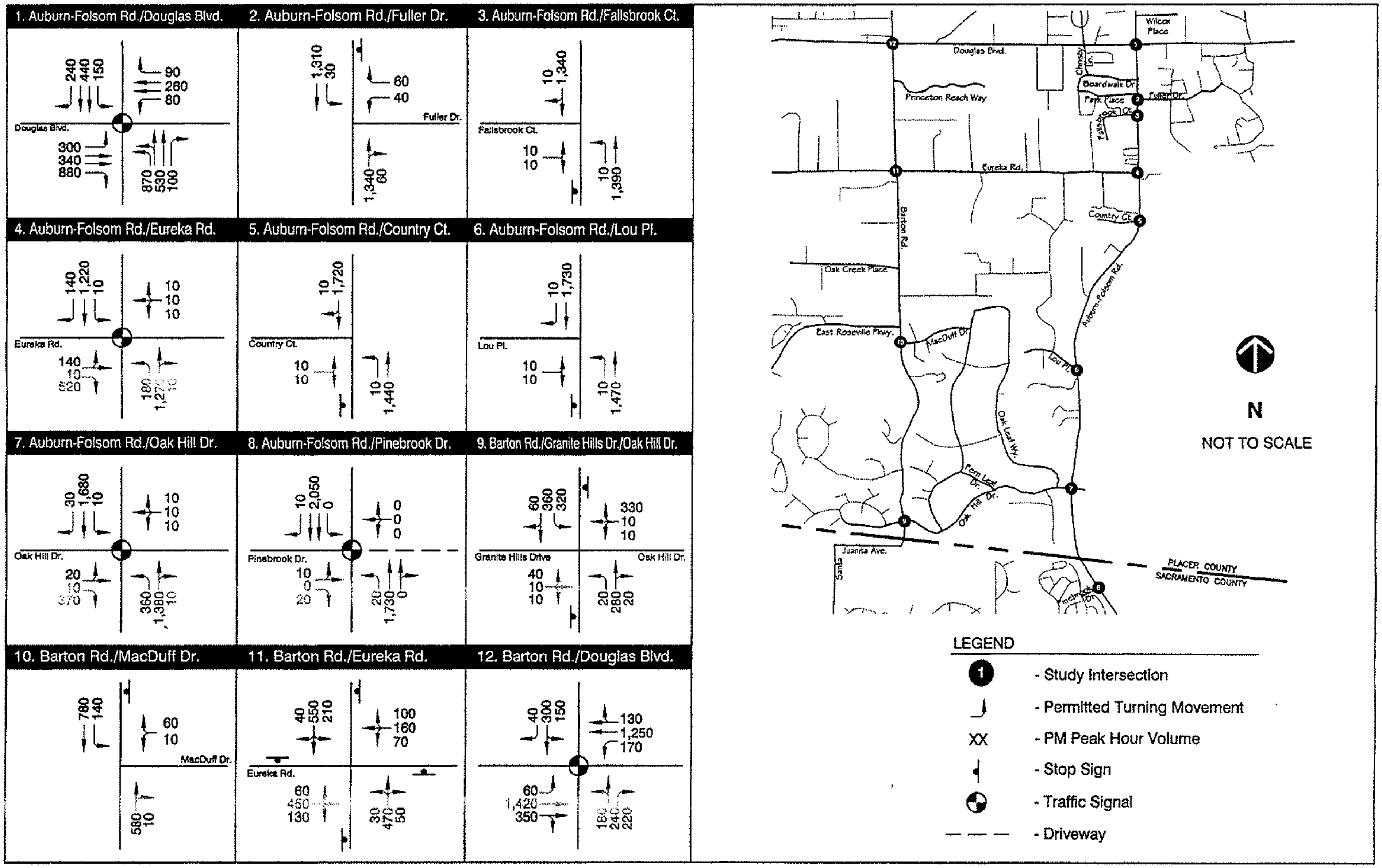
**PM PEAK HOUR TRAFFIC VOLUMES - CONSTRUCTION YEAR (2005) WITH PROJECT WITH MEDIAN CONDITIONS**

FIGURE 3-7

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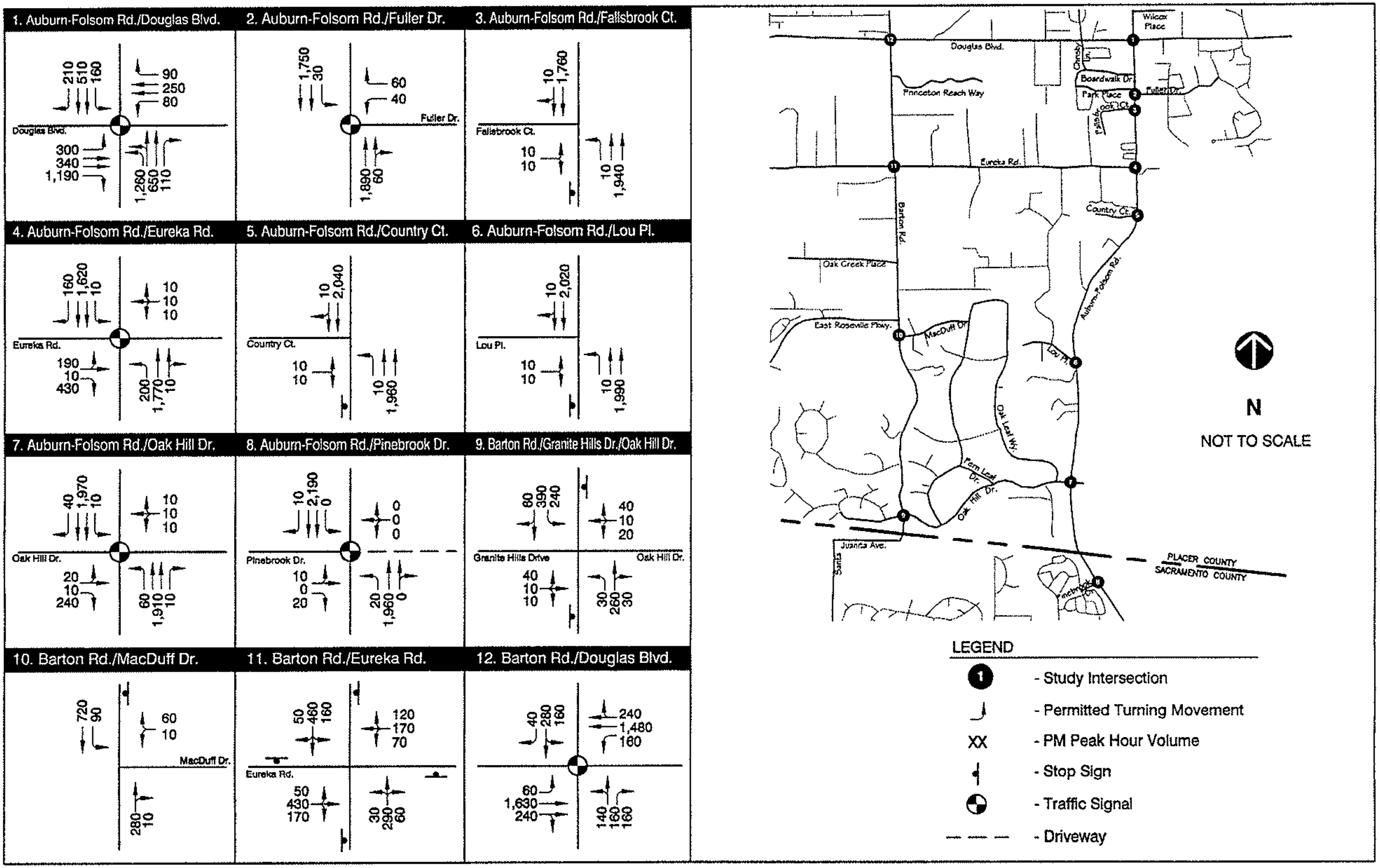
**PM PEAK HOUR TRAFFIC VOLUMES - CUMULATIVE (YEAR 2020) NO PROJECT CONDITIONS**

**FIGURE 3-8**

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Dec 05, 2002 KVS
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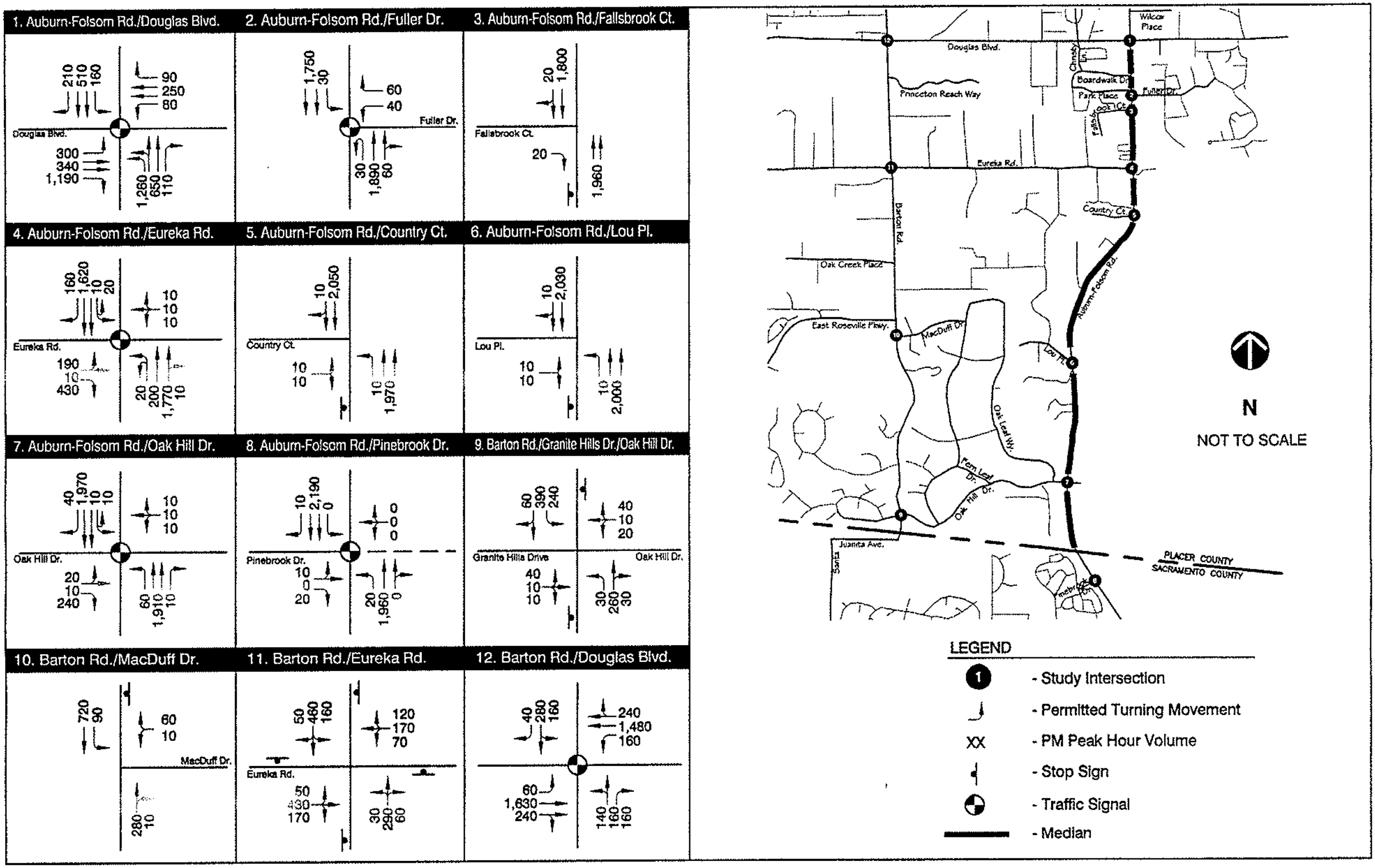
**PM PEAK HOUR TRAFFIC VOLUMES - CUMULATIVE (YEAR 2020) WITH PROJECT CONDITIONS**

**FIGURE 3-9**




FEHR & PEERS
TRANSPORTATION CONSULTANTS

Dec 06, 2002 KVS
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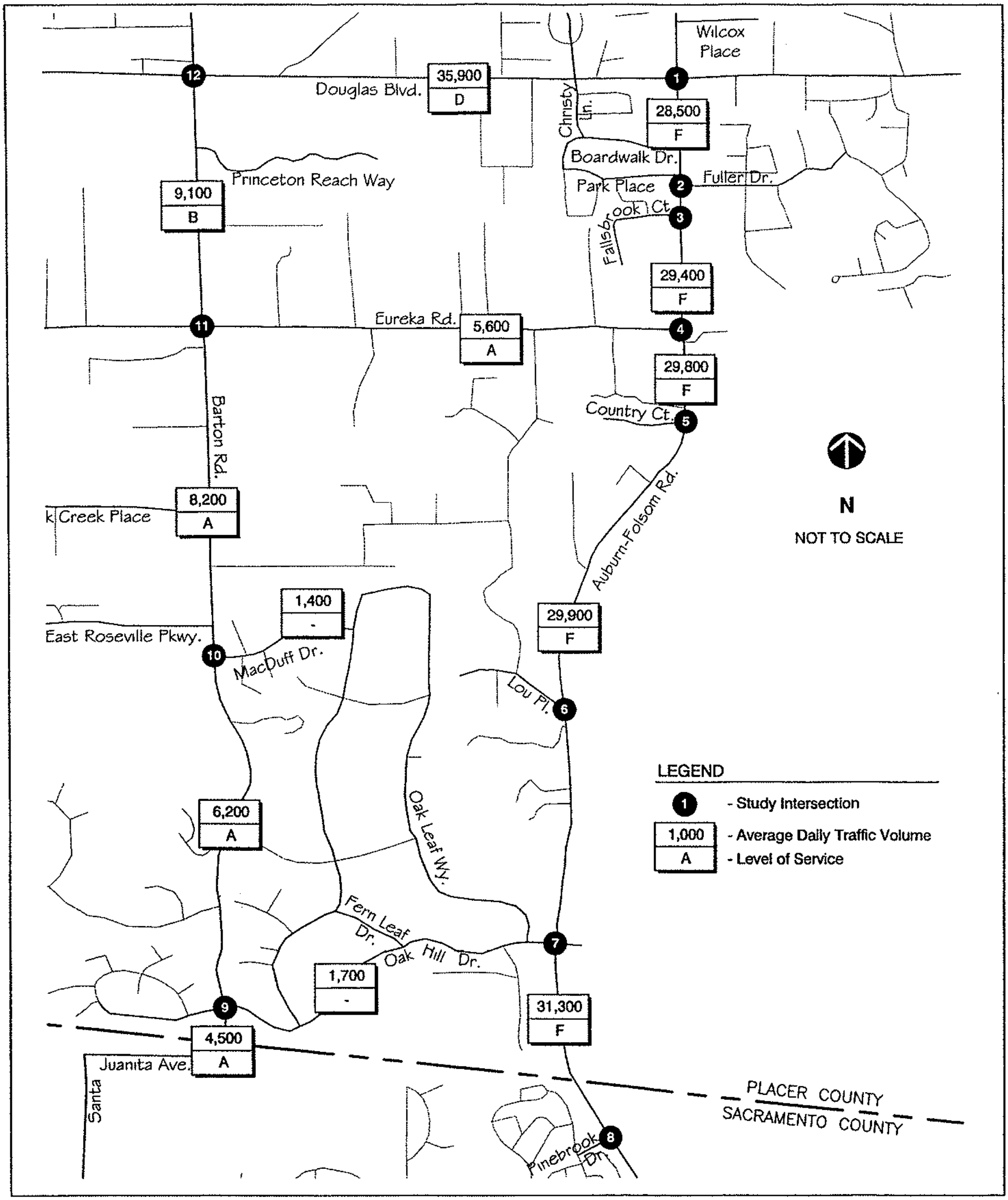
**PM PEAK HOUR TRAFFIC VOLUMES - CUMULATIVE (YEAR 2020) WITH PROJECT WITH MEDIAN CONDITIONS**

**FIGURE 3-10**

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Dec 03, 2002 MJF
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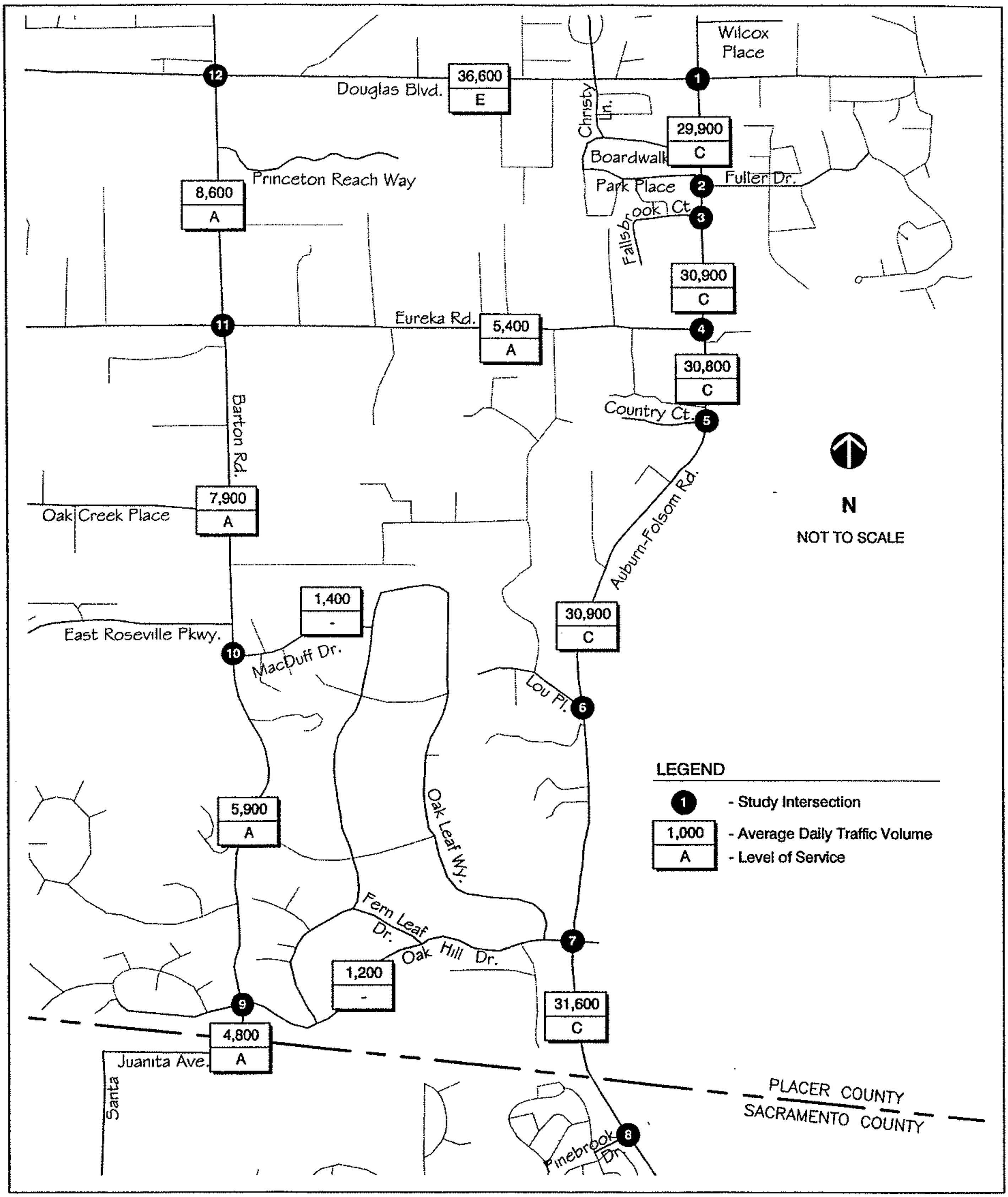
**AVERAGE DAILY TRAFFIC VOLUMES - CONSTRUCTION YEAR (2005) NO PROJECT CONDITIONS**

**FIGURE 3-11**

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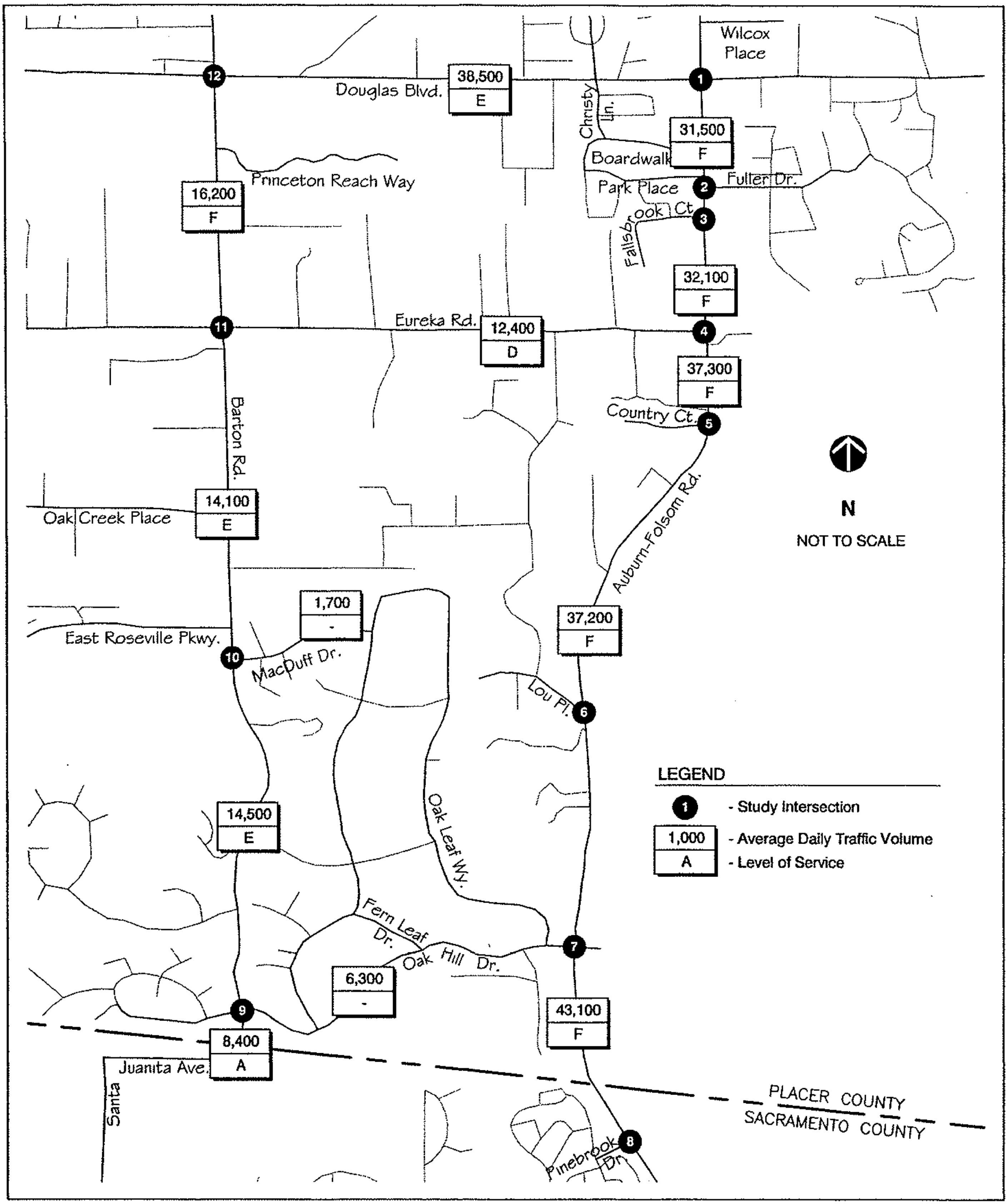
**AVERAGE DAILY TRAFFIC VOLUMES - CONSTRUCTION YEAR (2005) WITH PROJECT CONDITIONS**

**FIGURE 3-12**

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Dec 03, 2002 MJF
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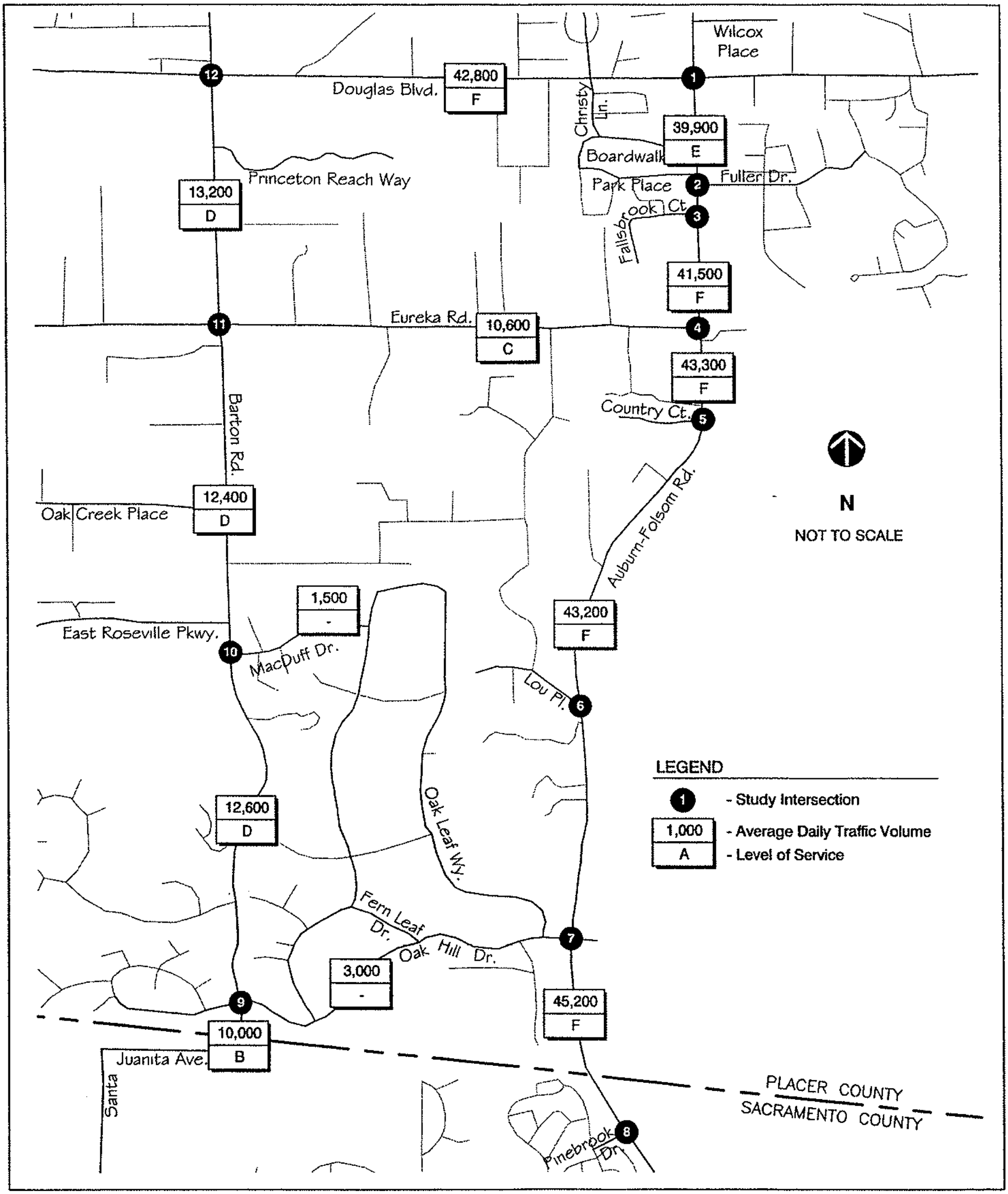
**AVERAGE DAILY TRAFFIC VOLUMES - CUMULATIVE (YEAR 2020) NO PROJECT CONDITIONS**

**FIGURE 3-13**

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# AVERAGE DAILY TRAFFIC VOLUMES - CUMULATIVE (YEAR 2020) WITH PROJECT CONDITIONS

Dec 03, 2002 MJF
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FIGURE 3-14

**TABLE 3-7**
**INTERSECTION LEVEL OF SERVICE – CONSTRUCTION YEAR (2005) WITH-PROJECT CONDITIONS**

| Intersection | Control | PM Peak Hour Worst-case Movement[1] Delay[2] | Worst-case Movement[1] LOS | Overall Delay[2] | Overall LOS |
|---|---|---|---|---|---|
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 35.8 | D |
| 2. Auburn-Folsom Road/Fuller Drive | Signalized | - | - | 4.4* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street Stop | > 50.0* | F* | 0.5* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | 20.5* | C* |
| 5. Auburn-Folsom Road/Country Court | Side-street Stop | > 50.0* | F* | 0.6* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street Stop | > 50.0* | F* | 0.7* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | 11.8* | B* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 3.4* | A* |
| 9. Barton Road/Oak Hill Drive | Side-street Stop | 15.4 | C | 3.3 | A |
| 10. Barton Road/MacDuff Drive | Side-street Stop | 10.6 | B | 2.1 | A |
| 11. Barton Road/Eureka Road | All-way Stop | 22.1 | C | 18.4 | C |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | 48.2 | D |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.
* An asterisk indicates intersections that may be influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections. Because the project adds an extra travel lane in each direction, the storage for queued vehicles will be greater at the study intersections. This would help to minimize the extent of queuing from downstream intersections compared to the no project scenario.

Source: Fehr & Peers, 2002

As shown in Table 3-7, the construction of the project will improve the p.m. peak hour intersection LOS to an acceptable level as compared to the "no-project" condition, at the Auburn-Folsom Road/Eureka Road and Auburn-Folsom Road/Oak Hill Drive intersections. The Auburn-Folsom Road/Fuller Drive intersection will operate at LOS A with the project. The Auburn-Folsom Road/Douglas Boulevard and Barton Road/Douglas Boulevard intersections will continue to operate at LOS D during the p.m. peak hour. Although these intersections operate deficiently, the overall delay (measured in seconds per vehicle) decreases from "no-project" conditions with implementation of the project at these locations.

Queue lengths for each turning movement at the study intersections have been calculated as part of the technical analysis and are included in Appendix P. The project design shall incorporate turn-pocket lengths that accommodate the projected queues.

**TABLE 3-8
INTERSECTION LEVEL OF SERVICE –
CONSTRUCTION YEAR (2005) WITH-PROJECT CONDITIONS (WITH RAISED MEDIAN)**

| Intersection | Control | PM Peak Hour Worst-case Movement[1] Delay[2] | PM Peak Hour Worst-case Movement[1] LOS | PM Peak Hour Overall Delay[2] | PM Peak Hour Overall LOS |
|---|---|---|---|---|---|
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 35.5 | D |
| 2. Auburn-Folsom Road/Fuller Drive | Signalized | - | - | 6.0* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street Stop | 14.8* | B* | 0.1* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | 21.4* | C* |
| 5. Auburn-Folsom Road/Country Court | Side-street Stop | > 50.0* | F* | 0.6* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street Stop | > 50.0* | F* | 0.7* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | 12.2* | B* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 3.4* | A* |
| 9. Barton Road/Oak Hill Drive | Side-street Stop | 15.4 | C | 3.3 | A |
| 10. Barton Road/MacDuff Drive | Side-street Stop | 10.6 | B | 2.1 | A |
| 11. Barton Road/Eureka Road | All-way Stop | 22.1 | C | 18.4 | C |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | 48.2 | D |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.
* An asterisk indicates intersections that may be influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.

Source: Fehr & Peers, 2002

As shown in Table 3-8, all intersections will operate at the same LOS with either the project or the raised median project option. The overall intersection delay with the raised median project option will increase at the Auburn-Folsom Road/Fuller Drive, Auburn-Folsom Road/Eureka Road, and Auburn-Folsom Road/Oak Hill Drive intersections compared to the project scenario due to the U-turns that will result from the installation of a raised median, but the levels of service will remain unchanged from "project" conditions. The overall intersection delay will decrease at the Auburn-Folsom Road/Douglas Boulevard intersection, and the worst-case movement and overall intersection delay at the Auburn-Folsom Road/Fallsbrook Court intersection will decrease due to the elimination of left turns at this location.

Queue lengths for each turning movement at the study intersections have been calculated as part of the technical analysis and are included in Appendix P. The raised median project option design shall incorporate turn-pocket lengths that accommodate the projected queues.

**TABLE 3-9**
**INTERSECTION LEVEL OF SERVICE – CUMULATIVE YEAR (2020) NO-PROJECT CONDITIONS**

| Intersection | Control | PM Peak Hour Hour | | | |
|---|---|---|---|---|---|
| | | Worst-case Movement[1] | | Overall | |
| | | Delay [2] | LOS | Delay [2] | LOS |
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 49.9 | D |
| 2. Auburn-Folsom Road/Fuller Drive | Side-street Stop | 41.0* | E* | 1.6* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street Stop | > 50.0* | F* | 1.9* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | > 80.0* | F* |
| 5. Auburn-Folsom Road/Country Court | Side-street Stop | > 50.0* | F* | 4.4* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street Stop | > 50.0* | F* | 4.6* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | > 80.0* | F* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 4.4* | A* |
| 9. Barton Road/Oak Hill Drive | Side-street Stop | > 50.0 | F | 35.6 | E |
| 10. Barton Road/MacDuff Drive | Side-street Stop | 21.9 | C | 1.8 | A |
| 11. Barton Road/Eureka Road | All-way Stop | > 50.0 | F | >50.0 | F |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | > 80.0 | F |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.
* An asterisk indicates intersections that are influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.
Source: Fehr & Peers, 2002

As shown in Table 3-9, all of the signalized study intersections except the Auburn-Folsom Road/Pinebrook Drive intersection will operate at LOS D or worse during the p.m. peak hour under cumulative year (2020) "no-project" conditions. The worst-case movement at all of the unsignalized study intersections except the Barton Road/MacDuff Drive intersection will operate at LOS E or F during the p.m. peak hour under cumulative year (2020) "no-project" conditions. The overall p.m. peak hour intersection LOS at the Barton Road/Oak Hill Drive intersection will be LOS E, and the overall p.m. peak hour intersection LOS at the Barton Road/Eureka Road intersection will be LOS F.

**TABLE 3-10**
**INTERSECTION LEVEL OF SERVICE –**
**CUMULATIVE YEAR (2020) WITH-PROJECT CONDITIONS**

| Intersection | Control | PM Peak Hour | | | |
|---|---|---|---|---|---|
| | | Worst-case Movement[1] | | Overall | |
| | | Delay[2] | LOS | Delay[2] | LOS |
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 71.5 | E |
| 2. Auburn-Folsom Road/Fuller Drive | Signalized | - | - | 8.2* | A* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street Stop | > 50.0* | F* | 2.2* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | > 80.0* | F* |
| 5. Auburn-Folsom Road/Country Court | Side-street Stop | > 50.0* | F* | 4.0* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street Stop | > 50.0* | F* | 4.0* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | 42.8* | D* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 5.1* | A* |
| 9. Barton Road/Oak Hill Drive | Side-street Stop | > 50.0 | F | 7.4 | A |
| 10. Barton Road/MacDuff Drive | Side-street Stop | 13.3 | B | 1.4 | A |
| 11. Barton Road/Eureka Road | All-way Stop | > 50.0 | F | > 50.0 | F |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | > 80.0 | F |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.
* An asterisk indicates intersections that may be influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.
Source: Fehr & Peers, 2002

As shown in Table 3-10, the construction of the project will improve the p.m. peak hour intersection LOS as compared to the cumulative year "no-project" conditions, at the Auburn-Folsom Road/Oak Hill Drive intersection. The overall p.m. peak hour intersection LOS will improve to LOS A at the Barton Road/Oak Hill Drive intersection. The p.m. peak hour delay at the Auburn-Folsom Road/Douglas Boulevard intersection will increase with the construction of the project as more traffic uses Auburn-Folsom Road. The Auburn-Folsom Road/Eureka Road, Barton Road/Eureka Road, and Barton Road/Douglas Boulevard intersections will continue to operate at LOS F.

Queue lengths for each turning movement at the study intersections have been calculated as part of the technical analysis and are included in Appendix P. The project design shall incorporate turn-pocket lengths that accommodate the projected queues.

**TABLE 3-11**
**INTERSECTION LEVEL OF SERVICE –**
**CUMULATIVE YEAR (2020) WITH-PROJECT CONDITIONS (WITH RAISED MEDIAN)**

| Intersection | Control | PM Peak Hour | | | |
|---|---|---|---|---|---|
| | | Worst-case Movement[1] | | Overall | |
| | | Delay [2] | LOS | Delay [2] | LOS |
| 1. Auburn-Folsom Road/Douglas Boulevard | Signalized | - | - | 71.5 | E |
| 2. Auburn-Folsom Road/Fuller Drive | Signalized | - | - | 10.7* | B* |
| 3. Auburn-Folsom Road/Fallsbrook Court | Side-street Stop | 20.2* | C* | 0.1* | A* |
| 4. Auburn-Folsom Road/Eureka Road | Signalized | - | - | > 80.0* | F* |
| 5. Auburn-Folsom Road/Country Court | Side-street Stop | > 50.0* | F* | 4.1* | A* |
| 6. Auburn-Folsom Road/Lou Place | Side-street Stop | > 50.0* | F* | 4.1* | A* |
| 7. Auburn-Folsom Road/Oak Hill Drive | Signalized | - | - | 42.8* | D* |
| 8. Auburn-Folsom Road/Pinebrook Drive | Signalized | - | - | 5.1* | A* |
| 9. Barton Road/Oak Hill Drive | Side-street Stop | > 50.0 | F | 7.4 | A |
| 10. Barton Road/MacDuff Drive | Side-street Stop | 13.3 | B | 1.4 | A |
| 11. Barton Road/Eureka Road | All-way Stop | > 50.0 | F | > 50.0 | F |
| 12. Barton Road/Douglas Boulevard | Signalized | - | - | > 80.0 | F |

Notes: [1] Delay and LOS for the worst-case movement reported for unsignalized intersections only.
[2] Delay is reported as seconds per vehicle.
* An asterisk indicates intersections that may be influenced by adjacent intersections. These intersections should be considered to operate worse than the reported LOS due to the effects of queuing from downstream intersections.
Source: Fehr & Peers, 2002

As shown in Table 3-11, all intersections will operate at the same LOS with either the project or the raised median project option, except the Auburn-Folsom Road/Fuller Drive intersection. The Auburn-Folsom Road/Fuller Drive intersection will operate at LOS B. The overall p.m. peak hour intersection delay will increase slightly at the Auburn-Folsom Road/Country Court and Auburn-Folsom Road/Lou Place intersections, but the levels of service will remain unchanged from "project" conditions. The worst-case movement and overall intersection delay at the Auburn-Folsom Road/Fallsbrook Court intersection will decrease due to the elimination of left turns at this location.

Queue lengths for each turning movement at the study intersections have been calculated as part of the technical analysis and are included in Appendix P. The raised median project option design shall incorporate turn-pocket lengths that accommodate the projected queues.

**TABLE 3-12**
**ROADWAY SEGMENT DAILY LEVELS OF SERVICE –**
**CONSTRUCTION YEAR (2005) NO-PROJECT CONDITIONS**

| Roadway Segment | Roadway Type | Number of Lanes | ADT | LOS |
|---|---|---|---|---|
| Auburn-Folsom Road – Douglas Boulevard to Fuller Drive | A-HAC | 4** | 28,500 | C |
| Auburn-Folsom Road – Fuller Drive to Eureka Road | A-HAC | 2 | 29,400 | F |
| Auburn-Folsom Road – Eureka Road to Country Court | A-HAC | 2 | 29,800 | F |
| Auburn-Folsom Road – Country Court to Oak Hill Drive | A-HAC | 2 | 29,900 | F |
| Auburn-Folsom Road – Oak Hill Drive to Pinebrook Drive | A-HAC | 2 | 31,300 | F |
| Barton Road – County Line to Oak Hill Drive | A-LAC | 2 | 4,500 | A |
| Barton Road – Oak Hill Drive to MacDuff Drive | A-LAC | 2 | 6,200 | A |
| Barton Road – East Roseville Parkway to Eureka Road | A-LAC | 2 | 8,200 | A |
| Barton Road – Eureka Road to Douglas Boulevard | A-LAC | 2 | 9,100 | B |
| Oak Hill Drive – Oak Leaf Way to Fern Leaf Drive | Local Road | 2 | 1,700 | * |
| MacDuff Drive – MacDuff Court to Oak Leaf Way | Local Road | 2 | 1,400 | * |
| Eureka Road – Auburn-Folsom to Barton Road | A-LAC | 2 | 5,600 | A |
| Douglas Boulevard – Auburn-Folsom Road to Barton Road | A-HAC | 4 | 35,900 | D |

A-HAC = Arterial –High Access Control
A-LAC = Arterial – Low Access Control

* The Placer County General Plan does not identify LOS for local roads.
** Auburn-Folsom Road transitions from 4 to 2 lanes through this section.

Source: Fehr & Peers, 2002

As shown in Table 3-12, all of the Auburn-Folsom Road study roadway segments will operate at LOS F under construction year (2005) "no-project" conditions except the existing four-lane section from Douglas Boulevard to Fuller Drive. The section of Douglas Boulevard between Auburn-Folsom Road and Barton Road will operate at LOS D.

| **TABLE 3-13**<br>**ROADWAY SEGMENT DAILY LEVELS OF SERVICE – CONSTRUCTION YEAR (2005) WITH-PROJECT CONDITIONS** | | | | |
|---|---|---|---|---|
| Roadway Segment | Roadway Type | Number of Lanes | ADT | LOS |
| Auburn-Folsom Road – Douglas Boulevard to Fuller Drive | A-HAC | 4 | 29,900 | C |
| Auburn-Folsom Road – Fuller Drive to Eureka Road | A-HAC | 4 | 30,900 | C |
| Auburn-Folsom Road – Eureka Road to Country Court | A-HAC | 4 | 30,800 | C |
| Auburn-Folsom Road – Country Court to Oak Hill Drive | A-HAC | 4 | 30,900 | C |
| Auburn-Folsom Road – Oak Hill Drive to Pinebrook Drive | A-HAC | 4 | 31,600 | C |
| Barton Road – County Line to Oak Hill Drive | A-LAC | 2 | 4,800 | A |
| Barton Road – Oak Hill Drive to MacDuff Drive | A-LAC | 2 | 5,900 | A |
| Barton Road – East Roseville Parkway to Eureka Road | A-LAC | 2 | 7,900 | A |
| Barton Road – Eureka Road to Douglas Boulevard | A-LAC | 2 | 8,600 | A |
| Oak Hill Drive – Oak Leaf Way to Fern Leaf Drive | Local Road | 2 | 1,200 | * |
| MacDuff Drive – MacDuff Court to Oak Leaf Way | Local Road | 2 | 1,400 | * |
| Eureka Road – Auburn-Folsom to Barton Road | A-LAC | 2 | 5,400 | A |
| Douglas Boulevard – Auburn-Folsom Road to Barton Road | A-HAC | 4 | 36,600 | E |

A-HAC = Arterial –High Access Control
A-LAC = Arterial – Low Access Control

* The Placer County General Plan does not identify LOS for local roads.

Source: Fehr & Peers, 2002

As shown in Table 3-13, all of the study roadway segments on Auburn-Folsom Road will operate at LOS C with implementation of the project or raised median project option under construction year (2005) conditions. The segment of Barton Road between Eureka Road and Douglas Boulevard will improve to LOS A due to a reduction in traffic on this segment. The segment of Douglas Boulevard between Auburn-Folsom Road and Barton Road will operate at LOS E. The average daily traffic on Oak Hill Drive from Oak Leak Way to Fern Leaf Drive will decrease as compared to the "no-project" condition.

**TABLE 3-14**
**ROADWAY SEGMENT DAILY LEVELS OF SERVICE –**
**CUMULATIVE YEAR (2020) NO-PROJECT CONDITIONS**

| Roadway Segment | Roadway Type | Number of Lanes | ADT | LOS |
|---|---|---|---|---|
| Auburn-Folsom Road – Douglas Boulevard to Fuller Drive | A-HAC | 4** | 31,500 | C |
| Auburn-Folsom Road – Fuller Drive to Eureka Road | A-HAC | 2 | 32,100 | F |
| Auburn-Folsom Road – Eureka Road to Country Court | A-HAC | 2 | 37,300 | F |
| Auburn-Folsom Road – Country Court to Oak Hill Drive | A-HAC | 2 | 37,200 | F |
| Auburn-Folsom Road – Oak Hill Drive to Pinebrook Drive | A-HAC | 2 | 43,100 | F |
| Barton Road – County Line to Oak Hill Drive | A-LAC | 2 | 8,400 | A |
| Barton Road – Oak Hill Drive to MacDuff Drive | A-LAC | 2 | 14,500 | E |
| Barton Road – East Roseville Parkway to Eureka Road | A-LAC | 2 | 14,100 | E |
| Barton Road – Eureka Road to Douglas Boulevard | A-LAC | 2 | 16,200 | F |
| Oak Hill Drive – Oak Leaf Way to Fern Leaf Drive | Local Road | 2 | 6,300 | * |
| MacDuff Drive – MacDuff Court to Oak Leaf Way | Local Road | 2 | 1,700 | * |
| Eureka Road – Auburn-Folsom to Barton Road | A-LAC | 2 | 12,400 | D |
| Douglas Boulevard – Auburn-Folsom Road to Barton Road | A-HAC | 4 | 38,500 | E |

A-HAC = Arterial –High Access Control
A-LAC = Arterial – Low Access Control

* The Placer County General Plan does not identify LOS for local roads.
** Auburn-Folsom Road transitions from 4 to 2 lanes through this section.

Source: Fehr & Peers, 2002

As shown in Table 3-14, all of the study roadway segments on Auburn-Folsom Road, Barton Road, Eureka Road, and Douglas Boulevard except the existing four-lane section of Auburn-Folsom Road from Douglas Boulevard to Fuller Drive and the section of Barton Road from the County line to Oak Hill Drive will operate at LOS D or worse under cumulative year (2020) "no-project" conditions.

**TABLE 3-15**
**ROADWAY SEGMENT DAILY LEVELS OF SERVICE – CUMULATIVE YEAR (2020) WITH-PROJECT CONDITIONS**

| Roadway Segment | Roadway Type | Number of Lanes | ADT | LOS |
|---|---|---|---|---|
| Auburn-Folsom Road – Douglas Boulevard to Fuller Drive | A-HAC | 4 | 39,900 | E |
| Auburn-Folsom Road – Fuller Drive to Eureka Road | A-HAC | 4 | 41,500 | F |
| Auburn-Folsom Road – Eureka Road to Country Court | A-HAC | 4 | 43,300 | F |
| Auburn-Folsom Road – Country Court to Oak Hill Drive | A-HAC | 4 | 43,200 | F |
| Auburn-Folsom Road – Oak Hill Drive to Pinebrook Drive | A-HAC | 4 | 45,200 | F |
| Barton Road – County Line to Oak Hill Drive | A-LAC | 2 | 10,000 | B |
| Barton Road – Oak Hill Drive to MacDuff Drive | A-LAC | 2 | 12,600 | D |
| Barton Road – East Roseville Parkway to Eureka Road | A-LAC | 2 | 12,400 | D |
| Barton Road – Eureka Road to Douglas Boulevard | A-LAC | 2 | 13,200 | D |
| Oak Hill Drive – Oak Leaf Way to Fern Leaf Drive | Local Road | 2 | 3,000 | * |
| MacDuff Drive – MacDuff Court to Oak Leaf Way | Local Road | 2 | 1,500 | * |
| Eureka Road – Auburn-Folsom to Barton Road | A-LAC | 2 | 10,600 | C |
| Douglas Boulevard – Auburn-Folsom Road to Barton Road | A-HAC | 4 | 42,800 | F |

A-HAC = Arterial –High Access Control
A-LAC = Arterial – Low Access Control

* The Placer County General Plan does not identify LOS for local roads.

Source: Fehr & Peers, 2002.

As shown in Table 3-15, all of the study roadway segments on Auburn-Folsom Road, Barton Road, and Douglas Boulevard except the section of Barton Road between the County line and Oak Hill Drive will continue to operate at LOS D or worse with implementation of the project or raised median project option. Although these segments operate deficiently, the LOS will improve on the following roadway segments:

- Barton Road – Oak Hill Drive to MacDuff Drive;
- Barton Road – East Roseville Parkway to Eureka Road; and
- Barton Road – Eureka Road to Douglas Boulevard.

The Barton Road segments improve due to the decrease in daily volumes with the implementation of the project or raised median project option, as will the segment of Eureka Road from Auburn-Folsom Road to Barton Road, which will improve to LOS C conditions. The segment of Barton Road between the County line and Oak Hill Drive will experience an increase in daily traffic that will result in LOS B conditions. Implementation of the project or raised median project option will cause the segment of Douglas Boulevard from Auburn-Folsom Road to Barton Road to operate at LOS F and the segment of Auburn-Folsom Road from Douglas Boulevard to Fuller Drive to operate at LOS E due to the increase in peak hour volumes that are projected to occur from trips shifting to the Douglas Boulevard/Auburn-Folsom Road route because of the increased capacity along Auburn-Folsom Road. The project will also result in a shift of trips to Auburn-Folsom Road from parallel north-south routes, such as Sierra College Boulevard. The average daily traffic on Oak Hill Drive from Oak Leak Way to

Fern Leaf Drive and MacDuff Drive from MacDuff Court to Oak Leaf Way will decrease as compared to the "no-project" condition.

Implementation of the project will not be sufficient to eliminate unacceptable LOS operations at study intersections and on study roadway segments under cumulative year (2020) conditions and will increase the delay at the Auburn-Folsom Road/Douglas Boulevard intersection as more capacity is added to Auburn-Folsom Road. Implementation of the project or raised median project option will support Policy 3.A.5. of the General Plan by discouraging the use of neighborhood streets, such as Oak Hill Drive and MacDuff Drive.

# Impact Analysis

The impacts on the study intersections and roadway segments have been analyzed for three conditions: the "no-project" condition, the "project" alternative, and the "raised median project option" alternative. All of the "build" alternatives involve widening Auburn-Folsom Road from two to four lanes from the County line to Fuller Drive and incorporate the same access points. Therefore, all of the "build" alternatives are analyzed as one "project" alternative. As defined by the County the "raised median project option" includes widening Auburn-Folsom Road to four lanes from the County line to Fuller Drive and the installation of a raised median along the entire corridor with median openings for left-turns at Boardwalk Drive, Fuller Drive, Eureka Road, Country Court, Lou Place, and Oak Hill Drive. U-turns would be allowed only at the signalized intersections.

## No-Project Conditions

### Construction Year (2005) No-Project Conditions

Existing ADT on Auburn-Folsom Road ranges from 27,900 near Douglas Boulevard to 28,900 near Pinebrook Drive. In 2005 without the project, these traffic volumes are projected to increase to 28,500 near Douglas Boulevard to 31,300 near Pinebrook Drive. As traffic volumes increase, traffic operations along Auburn-Folsom Road will deteriorate. Congested conditions on Auburn-Folsom Road would encourage drivers to seek alternate north-south routes such as Barton Road and Sierra College Boulevard. Cut-through traffic from Auburn-Folsom Road would use Oak Hill Drive and Eureka Road, with existing volumes projected to increase from an ADT of 800 and 4,300, respectively to 1,700 and 5,600 in 2005, respectively.

Projected traffic volumes in 2005 under "no-project" conditions would result in p.m. peak hour intersection LOS D or worse at the following intersections:

- Auburn-Folsom Road/Douglas Boulevard (LOS D);
- Auburn-Folsom Road/Eureka Road (LOS E);
- Auburn-Folsom Road/Oak Hill Drive (LOS D); and

- Barton Road/Douglas Boulevard (LOS D).

These traffic volumes would result in p.m. peak hour roadway segment LOS D or worse on the following roadway segments:

- Auburn-Folsom Road – Fuller Drive to Eureka Road (LOS F);
- Auburn-Folsom Road – Eureka Road to Country Court (LOS F);
- Auburn-Folsom Road – Country Court to Oak Hill Drive (LOS F);
- Auburn-Folsom Road – Oak Hill Drive to Pinebrook Drive (LOS F); and
- Douglas Boulevard – Auburn-Folsom Road to Barton Road (LOS D).

### Cumulative (Year 2020) No-Project Conditions

Existing ADT on Auburn-Folsom Road ranges from 27,900 near Douglas Boulevard to 28,900 near Pinebrook Drive. In 2020 without the project, these traffic volumes are projected to increase to 31,500 near Douglas Boulevard to 43,100 near Pinebrook Drive. As traffic volumes increase, traffic operations along Auburn-Folsom Road will deteriorate. Congested conditions on Auburn-Folsom Road would encourage drivers to seek alternate north-south routes such as Barton Road and Sierra College Boulevard. Levels of service on Barton Road would drop from an existing LOS of A to a LOS of E and F. Cut-through traffic from Auburn-Folsom Road would use Oak Hill Drive and Eureka Road, with existing volumes projected to increase from an ADT of 800 and 4,300, respectively to 6,300 and 12,400 in 2020, respectively.

Projected traffic volumes in 2020 under "no-project" conditions would result in p.m. peak hour intersection LOS D or worse at the following intersections:

- Auburn-Folsom Road/Douglas Boulevard (LOS D);
- Auburn-Folsom Road/Eureka Road (LOS F);
- Auburn-Folsom Road/Oak Hill Drive (LOS F);
- Barton Road/Oak Hill Drive (LOS E);
- Barton Road/Eureka Road (LOS F); and
- Barton Road/Douglas Boulevard (LOS F).

These traffic volumes would result in p.m. peak hour roadway segment LOS D or worse on the following roadway segments:

- Auburn-Folsom Road – Fuller Drive to Eureka Road (LOS F);
- Auburn-Folsom Road – Eureka Road to Country Court (LOS F);
- Auburn-Folsom Road – Country Court to Oak Hill Drive (LOS F);
- Auburn-Folsom Road – Oak Hill Drive to Pinebrook Drive (LOS F);
- Barton Road – Oak Hill Drive to MacDuff Drive (LOS E);
- Barton Road – East Roseville Parkway to Eureka Road (LOS E)
- Barton Road – Eureka Road to Douglas Boulevard (LOS F);

- Eureka Road – Barton Road to Auburn-Folsom Road (LOS D); and
- Douglas Boulevard – Auburn-Folsom Road to Barton Road (LOS E).

# Impacts

## Construction-Related Impacts

### Impact 3.1 Temporary Disruption of Traffic Conditions During Construction

Construction of the proposed project is anticipated to take approximately 18 months over two construction seasons. Regardless of which alternative is selected and whether the median is striped or raised, construction of the project could result in lane closures, detours, and the addition of construction trucks and equipment on the surrounding roadway system. Increased traffic delays may result in drivers choosing alternate routes, when feasible.

This impact is considered significant. Implementation of Mitigation Measure P3.1 would reduce this impact to a less-than-significant level.

## Operation-Related Impacts

### Impact 3.2 Increased Roadway Capacity and Increased Traffic Volumes That Would Exacerbate the Construction Year (2005) "No-Project" LOS D, E, or F Conditions at an Intersection or on a Roadway Segment

Implementation of any of the project alternatives or the raised median project option will exacerbate the "no-project" p.m. peak hour LOS deficiency on the following roadway segment:

- Douglas Boulevard – Auburn-Folsom Road to Barton Road (LOS E).

The project alternatives and the raised median project option will exacerbate the "no-project" LOS deficiency because widening Auburn-Folsom Road attracts more trips to the corridor than "no-project" conditions. This causes the impact on Douglas Boulevard, which is a major arterial, but also benefits local residential roadways that would otherwise experience cut-through traffic under "no project" conditions (i.e., the Barton Road-Oak Hill Drive cut-through route).

Because the project alternatives and the project option will exacerbate "no-project" LOS D conditions on a study roadway segment, this impact is considered significant. Implementation of Mitigation Measure P3.2 would reduce this impact to a less-than-significant level.

### Impact 3.3 Increased Traffic Volumes That Would Exacerbate the Cumulative Year (2020) "No-Project" LOS D, E or F Conditions at an Intersection or on a Roadway Segment or Cause the Cumulative Year (2020) "No-Project" LOS at an Intersection or on a Roadway Segment to Deteriorate from LOS A, B, or C to D, E, or F and Would Exceed the Capacity of the Four-Lane Roadway

Implementation of any of the project alternatives or the raised median project option would exacerbate the "no-project" p.m. peak hour intersection LOS deficiency at the following intersection:

- Auburn-Folsom Road/Douglas Boulevard (LOS E).

The project alternatives or the raised median project option would exacerbate the "no-project" p.m. peak hour roadway segment LOS deficiency on the following roadway segment:

- Douglas Boulevard – Barton Road to Auburn-Folsom Road (LOS F).

The project alternatives and the raised median project option will exacerbate the "no-project" LOS deficiencies because widening Auburn-Folsom Road attracts more trips to the corridor than "no-project" conditions. This causes the impact on Douglas Boulevard, which is a major arterial, but also benefits local residential roadways that would otherwise experience cut-through traffic under "no project" conditions (i.e., the Barton Road-Oak Hill Drive cut-through route).

The project alternatives and the raised median project option would also cause the LOS to deteriorate to LOS E on Auburn-Folsom Road from Douglas Boulevard to Fuller Drive.

Because the project alternatives and the raised median project option will exacerbate "no-project" LOS D conditions at a study intersection and on a study roadway segment and cause the LOS on a roadway segment to deteriorate to LOS E, this impact is considered significant. Implementation of Mitigation Measures P3.3a and P3.3b would reduce this impact to a less-than-significant level.

## Consistency with Applicable Bicycle, Pedestrian and Equestrian System Improvements and Policies

### Impact 3.4 Potential Inconsistency with Equestrian System Policies Contained in the Placer County General Plan and the Granite Bay Community Plan

The project alternatives or the raised median project option would be potentially inconsistent with the following policy statements contained in the Placer County

General Plan, the Granite Bay Community Plan, and the Granite Bay Community Plan Recreation Element:

- Policy 3.D.2 of the General Plan requires that the County work to coordinate and develop bikeways and multi-purpose trails with neighboring jurisdictions. Policy V.A.13 of the Community Plan requires that roads be designed to encourage alternative modes of transportation, such as walking, bicycling, riding, and public transportation, and Policy III.7 of the Community Plan Recreation Element requires that a connected trail system for bicyclist, equestrian and pedestrian use be established.

The project does not include an equestrian crossing of Auburn-Folsom Road at Lou Place as identified in the Granite Bay Community Plan. Therefore, the project may be inconsistent with the policies of Placer County. This impact is considered significant. Implementation of Mitigation Measure P3.4 would reduce this impact to a less-than-significant level.

### Impact 3.5 Potential Inconsistency with Pedestrian and Bicycle System Policies Contained in the Placer County General Plan and the Granite Bay Community Plan

The project alternatives or the raised median project option would be potentially inconsistent with the following policy statements contained in the Placer County General Plan, the Granite Bay Community Plan, and the Granite Bay Community Plan Recreation Element:

- Policy 3.D.2 of the General Plan requires that the County work to coordinate and develop bikeways and multi-purpose trails with neighboring jurisdictions. Policy V.A.13 of the Community Plan requires that roads be designed to encourage alternative modes of transportation, such as walking, bicycling, riding, and public transportation, and Policy III.7 of the Community Plan Recreation Element requires that a connected trail system for bicyclist, equestrian and pedestrian use be established.

The project includes on-street bicycle lanes, which is consistent with the regional plans and policies. Implementation of Mitigation Measure P3.5 would reduce this impact to a less-than-significant level.

## Mitigation Measures

This section details the mitigation measures identified for the project alternatives and the raised median project option. Mitigation measures are identified as either of the following:

- *Proposed mitigation measures* are measures that the Placer County DPW, as project proponent, is either proposing as part of the project design or has agreed to implement.

- *Recommended mitigation measures* are measures that are identified in this environmental document but that the Placer County DPW has not chosen to implement, and which may be required by the Placer County Board of Supervisors if the project is approved.

## Proposed Mitigation Measures

### Mitigation Measure P3.1: Prepare a Traffic Management Plan to be Implemented During Construction

The Placer County DPW shall develop and implement a traffic control plan for the project. The plan shall be designed to reduce the effects of construction on the roadway system throughout the construction period. The plan shall include provisions to discourage "cut-through" traffic on local streets. The plan shall also discourage the use of Barton Road as a parallel north-south street and detour traffic to Sierra College Boulevard.

As feasible, at least one lane of traffic shall be maintained at all times. Proposed lane closures during the a.m. and p.m. commuting hours (6–9 a.m. and 3–6 p.m.) shall be minimized to the extent feasible. As feasible, pedestrian, equestrian, and bicycle access shall be maintained during construction. Construction areas shall be secured to prevent pedestrians, equestrians, and bicyclists from entering the work area.

This mitigation measure is common to all alternatives.

### Mitigation Measure P3.2: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes

Placer County Department of Public Works will implement strategies as part of the regular transportation planning and traffic engineering functions and alleviate the need to widen Douglas Boulevard to six lanes. The *Southeast Placer County Transportation Study* recommended alternative strategies to be implemented rather than widening Douglas Boulevard to six lanes. These strategies, endorsed by the Board of Supervisors in December 2000, included:

- Work with PCTPA, SACOG and neighboring jurisdictions to address a regional solution to the amount of through traffic in Granite Bay.
- Add turn lanes at major intersections along Douglas Boulevard to provide LOS D.
- Potentially close some median openings along Douglas Boulevard to maintain its ability to carry traffic at higher levels of service.

This mitigation measure is common to all alternatives.

### Mitigation Measure P3.3a: Increase the Capacity at the Auburn-Folsom Road/Douglas Boulevard Intersection to Operate at an Acceptable LOS in 2020

The County will continue to monitor the LOS at the Auburn-Folsom Road/Douglas Boulevard intersection and construct new improvements as needed. The Board of Supervisors will approve intersection improvements at the Auburn-Folsom Road/Douglas Boulevard intersection that are included in the Capital Improvement Program that is funded by traffic mitigation fees in the Granite Bay area when funds are available and the need exists. The intersection improvements include:

Provide additional turn lanes as follows: a free right-turn lane on the eastbound approach, two exclusive left-turn and two exclusive through lanes on the northbound approach, and two exclusive left-turn lanes on the eastbound approach.

### Mitigation Measure P3.3b: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes

Placer County Department of Public Works will implement strategies as part of the regular transportation planning and traffic engineering functions and alleviate the need to widen Douglas Boulevard to six lanes. The *Southeast Placer County Transportation Study* recommended alternative strategies to be implemented rather than widening Douglas Boulevard to six lanes. These strategies, endorsed by the Board of Supervisors in December 2000, included:

- Work with PCTPA, SACOG, and neighboring jurisdictions to address a regional solution to the amount of through traffic in Granite Bay.
- Add turn lanes at major intersections along Douglas Boulevard to provide LOS D.
- Potentially close some median openings along Douglas Boulevard to maintain its ability to carry traffic at higher levels of service.

This mitigation measure is common to all alternatives.

### Mitigation Measure P3.4: Install a Signal at the Auburn-Folsom Road/Lou Place Intersection to Allow Pedestrian/Equestrian Crossings

In accordance with the current Granite Bay Community Plan, Placer County DPW will install a signal at the Auburn-Folsom Road/Lou Place intersection to facilitate pedestrian and equestrian movements across Auburn-Folsom Road into Folsom State Recreational Area. In the event that the Granite Bay Community Plan is modified to remove an equestrian trail along Lou Place and a crossing at Auburn-Folsom Road, the Placer County DPW has the option of installing a signal or not, at its discretion.

This mitigation measure is common to all alternatives.

### Mitigation Measure P3.5: Provide Class II Bikeways

Placer County DPW shall provide Class II bikeways along Auburn-Folsom Road pursuant to the Placer County Bikeways Master Plan. The location, width, alignment, and surfacing of the bikeways shall be in accordance with the bikeway design standards listed in the Placer County General Plan.

## Recommended Mitigation Measures

There are no recommended mitigation measures.

**Table 3-16.** Traffic Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **TRAFFIC** | | | | |
| Impact 3.1 Temporary Disruption of Traffic Conditions During Construction | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P3.1: Prepare a Traffic Management Plan to be Implemented During Construction | P3.1: Prepare a Traffic Management Plan to be Implemented During Construction | P3.1: Prepare a Traffic Management Plan to be Implemented During Construction | P3.1: Prepare a Traffic Management Plan to be Implemented During Construction |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 3.2 Increased Roadway Capacity and Increased Traffic Volumes That Would Exacerbate the Construction Year (2005) "No-Project" LOS D, E, or F Conditions at an Intersection or on a Roadway Segment | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P3.2: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.2: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.2: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.2: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 3.3 Increased Traffic Volumes That Would Exacerbate the Cumulative Year (2020) "No-Project" LOS D, E or F Conditions at an Intersection or on a Roadway Segment or Cause the Cumulative Year (2020) "No-Project" LOS at an Intersection or on a Roadway Segment to Deteriorate from LOS A, B, or C to D, E, or F and Would Exceed the Capacity of the Four-Lane Roadway | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P3.3a: Increase the Capacity at the Auburn-Folsom Road/Douglas Boulevard Intersection to Operate at an Acceptable LOS in 2020 | P3.3a: Increase the Capacity at the Auburn-Folsom Road/Douglas Boulevard Intersection to Operate at an Acceptable LOS in 2020 | P3.3a: Increase the Capacity at the Auburn-Folsom Road/Douglas Boulevard Intersection to Operate at an Acceptable LOS in 2020 | P3.3a: Increase the Capacity at the Auburn-Folsom Road/Douglas Boulevard Intersection to Operate at an Acceptable LOS in 2020 |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| | P3.3b: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.3b: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.3b: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes | P3.3b: Implement Strategies to Alleviate the Need to Widen Douglas Boulevard to Six Lanes |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 3.4 Potential Inconsistency with Equestrian System Policies Contained in the Placer County General Plan and the Granite Bay Community Plan | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P3.4: Install a Signal at the Auburn-Folsom Road/Lou Place Intersection to Allow Pedestrian/Equestrian Crossings | P3.4: Install a Signal at the Auburn-Folsom Road/Lou Place Intersection to Allow Pedestrian/Equestrian Crossings | P3.4: Install a Signal at the Auburn-Folsom Road/Lou Place Intersection to Allow Pedestrian/Equestrian Crossings | P3.4: Install a Signal at the Auburn-Folsom Road/Lou Place Intersection to Allow Pedestrian/Equestrian Crossings |
| Significance After Mitigation | LS | LS | LS | LS |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Impact 3.5 Potential Inconsistency with Pedestrian and Bicycle System Policies Contained in the Placer County General Plan and the Granite Bay Community Plan | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P3.5: Provide Class II Bikeways | P3.5: Provide Class II Bikeways | P3.5: Provide Class II Bikeways | P3.5: Provide Class II Bikeways |
| Significance After Mitigation | LS | LS | LS | LS |

Key:

SU = Significant and unavoidable.

S = Significant.

PS = Potentially significant.

LS = Less than significant.

NI = No impact.

NA = Not applicable.

Chapter 4
# Air Quality

This chapter describes the air quality environment of the project area, identifies policies and regulations relevant to air quality, and addresses the air quality impacts associated with construction and operation of the proposed project.

# Affected Environment

## Environmental Setting

### Climate and Meteorology

The project area is located in the Placer County portion of the Sacramento Valley Air Basin (SVAB). The climate in the area is characterized by hot, dry summers and mild, wet winters. Monthly averages of daily extreme temperatures range from 39°F to 52°F in January and 58°F to 90°F in July. The average annual rate of precipitation is 25 inches, approximately 90% of which occurs during a 6-month period from November to April.

The prevailing wind direction in the Sacramento Valley portion of Placer County is from the south and southeast, primarily because of marine breezes that come through the Carquinez Strait. During winter, sea breezes diminish and winds from the north occur more frequently, but winds from the south still predominate.

Air pollution problems often develop when calm winds combine with inversions. An *inversion* is an increase in temperature corresponding to height above ground; during inversions, vertical mixing of air ceases. Cessation of horizontal wind is called a *calm*.

Because of prevailing winds coming generally from the south to southwest, air quality in the area is influenced heavily by mobile and stationary sources of air pollution located upwind, in the Sacramento metropolitan area. The "transport" of emissions, coupled with intense inversions, results in frequent violations of the ozone standard during summer.

Two types of inversions can occur. The first usually takes place between late spring and early fall, when a layer of warm air often overlies a layer of cool air from the Delta and San Francisco Bay. The second, a typical winter inversion, is formed when the sun heats the upper air layers, trapping air below that cooled by contact with the colder surface of the earth during the night. Although each inversion type predominates during certain seasons, both types can occur at any time. Local topography produces many variations that can affect the inversion base and influence local air quality. When calm winds occur with inversions, pollutant concentrations increase over the area. These conditions trap pollutants and increase pollutant concentrations by preventing their dilution and dispersion into the atmosphere.

## Ambient Air Quality Standards and Existing Placer County Air Quality

Both California and the federal government have established ambient air quality standards for several different pollutants, known as criteria pollutants, and require areas that violate these standards to prepare and implement plans to achieve the standards by certain deadlines. The air pollutants of greatest concern in the project area are carbon monoxide (CO), various components of photochemical smog (ozone and other pollutants), and particulate matter 10 microns or less in diameter (PM10). State and federal air quality standards are summarized in Table 4-1.

Because of the recorded violations of the state and federal ozone standards, the SVAB and Mountain Counties Air Basin (MCAB) portions of Placer County have been designated by the California Air Resources Board (ARB) as nonattainment areas for ozone and by the U.S. Environmental Protection Agency (EPA) as severe nonattainment areas for ozone. Placer County also is classified by the state as a nonattainment area for PM10. The nonattainment designations indicate that the ozone and PM10 levels in Placer County are a potential threat to public health. Table 4-2 summarizes the criteria pollutant attainment status for Placer County.

The discussion below focuses on ozone, CO, and PM10 because:

- the project area's air quality exceeds the allowable ambient state and federal standards for ozone and the state standard for PM10;
- the Placer County 1994 Air Quality Attainment Plan anticipates that ozone standards will not be attained until at least 2005; and
- projected increases in population, vehicle trips, and vehicle miles traveled could result in excessive CO concentrations in the project area.

### Ozone and Its Precursors

Ozone, the main component of photochemical smog, is primarily a summer and fall pollution problem. Ozone is not emitted directly into the air, but is formed through a complex series of chemical reactions involving other compounds (known as ozone precursors, including reactive organic gases [ROG] and oxides

**Table 4-1.** Ambient Air Quality Standards Applicable in California



| Pollutant | Symbol | Average Time | Standard (parts per million) | | Standard (micrograms per cubic meter) | | Violation Criteria | |
|---|---|---|---|---|---|---|---|---|
| | | | California | National | California | National | California | National |
| Ozone | $O_3$ | 1 hour | 0.09 | 0.12 | 180 | 235 | If exceeded | If exceeded on more than 3 days in 3 years |
| | | 8 hours | NA | 0.08 | NA | 157 | NA | If exceeded more than 3 days in 3 years |
| Carbon monoxide | CO | 8 hours | 9.0 | 9 | 10,000 | 10,000 | If exceeded | If exceeded on more than 1 day per year |
| | | 1 hour | 20 | 35 | 23,000 | 40,000 | If exceeded | If exceeded on more than 1 day per year |
| (Lake Tahoe only) | | 8 hours | 6 | NA | 7,000 | NA | If equaled or exceeded | NA |
| Nitrogen dioxide | $NO_2$ | Annual average | NA | 0.053 | NA | 100 | NA | If exceeded |
| | | 1 hour | 0.25 | NA | 470 | NA | If exceeded | |
| Sulfur dioxide | $SO_2$ | Annual average | NA | 0.03 | NA | 80 | NA | If exceeded |
| | | 24 hours | 0.04 | 0.14 | 105 | 365 | If exceeded | If exceeded on more than 1 day per year |
| | | 1 hour | 0.25 | NA | 655 | NA | NA | NA |
| Hydrogen sulfide | $H_2S$ | 1 hour | 0.03 | NA | 42 | NA | If equaled or exceeded | NA |
| Vinyl chloride | $C_2H_3Cl$ | 24 hours | 0.010 | NA | 26 | NA | If equaled or exceeded | NA |
| Sulfate particles | $SO_4$ | 24 hours | NA | NA | 25 | NA | If equaled or exceeded | NA |
| Inhalable particulate matter | PM10 | Annual geometric mean | NA | NA | 20 | NA | If exceeded | NA |
| | | Annual arithmetic mean | NA | NA | NA | 50 | NA | If exceeded |
| | | 24 hours | NA | NA | 50 | 150 | If exceeded | If average 1% over 3 years is exceeded |
| | PM2.5 | Annual geometric mean | NA | NA | 12 | NA | If exceeded | NA |
| | | Annual arithmetic mean | NA | NA | NA | 15 | NA | If exceeded |
| | | 24 hours | NA | NA | NA | 65 | NA | If average 2% over 3 years is exceeded |

**Table 4-1.** Continued



| Pollutant | Symbol | Average Time | Standard (parts per million) | | Standard (micrograms per cubic meter) | | Violation Criteria | |
|---|---|---|---|---|---|---|---|---|
| | | | California | National | California | National | California | National |
| Lead particles | Pb | Calendar quarter | NA | NA | NA | 1.5 | NA | If exceeded no more than 1 day per year |
| | | 30 days | NA | NA | 1.5 | NA | If equaled or exceeded | NA |

Notes:

All standards are based on measurements at 25°C and 1 atmosphere pressure.

National standards shown are the primary (health effects) standards.

NA = not applicable.

**Table 4-2.** Criteria Pollutant Attainment Status for Placer County

| Pollutant | Status: California | Status: Federal |
|---|---|---|
| Ozone | nonattainment[a] | severe nonattainment[a] |
| Carbon monoxide | unclassified/attainment | unclassified/attainment |
| PM10 | nonattainment | unclassified |

Notes: "Unclassified" designations indicate that sufficient monitoring data are unavailable. Unclassified areas are generally treated as attainment areas.

The Lake Tahoe Air Basin, which includes the eastern portion of Placer County, is classified as an attainment area.

of nitrogen [$NO_x$]). The period required for ozone formation allows the reacting compounds to spread over a large area, producing a regional pollution problem. Ozone problems are the cumulative result of regional development patterns, rather than the result of a few emission sources.

In Placer County, ROG and $NO_x$ are emitted primarily by motor vehicles. Major secondary sources are solvent use; petroleum processing, storage, and transfer; and miscellaneous industrial processes. During the next 20 years, stationary and area sources likely will replace motor vehicles as the principal source of ROG emissions.

### Health Effects

Ozone is a public health concern because it is a respiratory irritant that also increases susceptibility to respiratory infections. Ozone also causes substantial damage to leaf tissues of crops and natural vegetation, and it damages many materials by acting as a chemical oxidizing agent.

### State and Federal Standards

State and federal standards for ozone have been set for a 1-hour averaging time. As shown in Table 4-1, the state 1-hour standard is 0.09 parts per million (ppm), which is not to be exceeded. The federal 1-hour standard is 0.12 ppm, which is not to be exceeded more than three times in any 3-year period. A federal 8-hour standard of 0.08 ppm has also been set. As shown in Table 4-3, the project area occasionally has violated the federal and state standards. As stated, ozone problems arise primarily from vehicle traffic associated with urban development.

## Carbon Monoxide

Excessive CO concentrations primarily are a winter pollution problem that can be strongly localized. Motor vehicle emissions are the dominant source of CO in most areas. Because CO is a directly emitted pollutant, dispersion and reduced pollution concentrations accompany its transport away from the emission source. Consequently, CO problems often result from high traffic volumes and traffic congestion, and are usually located near congested intersections.

Outdoor CO levels are a fairly reliable indicator of potential indoor CO levels. Because CO is not chemically reactive and is poorly soluble in water, it is not adsorbed onto surfaces or otherwise altered as it enters open doorways, open windows, or building ventilation systems.

Data from previous studies suggest that CO problems occur primarily near traffic arteries with substantial amounts of commercial development. The presence of substantial commercial development is an important contributing factor for two reasons. First, parking lots for such developments are a localized source of emissions, augmenting the CO emissions from vehicle traffic on adjacent roadways. Second, vehicles leaving major parking lots are likely to be in a cold-start mode, resulting in higher CO emission rates than are typical for through traffic on major roadways.

Meteorological conditions are another important factor affecting the development of CO problems. High CO levels develop primarily during winter, when periods of light winds or calm conditions combine to form ground-level temperature inversions (typically in the evening through early morning). These conditions result in reduced dispersion of vehicle emissions, allowing CO problems to develop and persist during hours when traffic volumes are declining from peak levels. Motor vehicles also exhibit increased CO emission rates at cool temperatures.

Motor vehicles are the primary source of CO emissions in most areas, including Placer County. Miscellaneous industrial fuel combustion and waste burning are major secondary CO sources.

### Health Effects

CO is a public health concern because CO combines with hemoglobin and thereby reducing the rate at which oxygen is transported in the bloodstream. Because CO binds to hemoglobin 220–245 times more strongly than oxygen, even low concentrations of CO can significantly affect the blood oxygen concentration. Both the cardiovascular and central nervous systems can be affected when 25–40% of the hemoglobin in the bloodstream is bound to CO rather than to oxygen. State and federal ambient air quality standards for CO have been set at levels intended to keep CO from combining with more than 15% of the body's hemoglobin (U.S. Environmental Protection Agency 1978, California Air Resources Board 1982).

### State and Federal Standards

State and federal CO standards have been set for both 1- and 8-hour averaging times. As shown in Table 4-1, the state 1-hour standard is 20 ppm and the federal 1-hour standard is 35 ppm. State and federal 8-hour standards are both 9 ppm. State standards represent values not to be exceeded; federal standards are values not to be exceeded more than once per year. As shown in Table 4-4, no violations of state or federal standards have occurred during the monitoring period.

## Particulate Matter

PM10 emissions in Placer County are generated primarily by agricultural operations, traffic on unpaved roads, and construction and demolition. Secondary sources include motor vehicle exhaust, residential open burning, and fireplace emissions.

### Health Effects

Health concerns associated with suspended particulate matter focus on particles small enough to reach the lungs when inhaled. Few particles larger than 10 microns in diameter reach the lungs. Smaller suspended particles or droplets, designated as PM10, can lodge in the lungs and contribute to respiratory problems. PM10 arises from sources such as road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations, and dust carried by windstorms. It is also formed in the atmosphere from reactions of nitrogen

**Table 4-3.** Summary of Ozone Monitoring Data for Placer County, 1995–2000

| Monitoring Station | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|---|---|---|---|---|---|
| **Auburn: Dewitt Avenue** | | | | | | |
| Maximum 1-hour concentration (ppm) | 0.148 | 0.125 | 0.016 | 0.144 | 0.142 | 0.124 |
| Days standard exceeded | | | | | | |
| CAAQS (1-hour) > 0.09 ppm | 26 | 22 | 4 | 15 | 24 | 22 |
| NAAQS (1-hour) > 0.12 ppm | 2 | 1 | 0 | 5 | 2 | 0 |
| **Colfax: City Hall** | | | | | | |
| Maximum 1-hour concentration (ppm) | 0.130 | 0.108 | 0.103 | 0.132 | 0.159 | 0.119 |
| Days standard exceeded | | | | | | |
| CAAQS (1-hour) > 0.09 ppm | 16 | 4 | 2 | 11 | 9 | 10 |
| NAAQS (1-hour) > 0.12 ppm | 1 | 0 | 0 | 1 | 1 | 0 |
| **Rocklin: Rocklin Road** | | | | | | |
| Maximum 1-hour concentration (ppm) | 0.146 | 0.130 | 0.113 | 0.143 | 0.128 | 0.118 |
| Days standard exceeded | | | | | | |
| CAAQS (1-hour) > 0.09 ppm | 25 | 30 | 9 | 16 | 17 | 16 |
| NAAQS (1-hour) > 0.12 ppm | 3 | 1 | 0 | 3 | 3 | 0 |
| **Roseville: North Sunrise Boulevard** | | | | | | |
| Maximum 1-hour concentration (ppm) | 0.135 | 0.135 | 0.111 | 0.153 | 0.136 | 0.128 |
| Days standard exceeded | | | | | | |
| CAAQS (1-hour) > 0.09 ppm | 18 | 24 | 7 | 20 | 14 | 13 |
| NAAQS (1-hour) > 0.12 ppm | 2 | 2 | 0 | 5 | 2 | 1 |

Notes: CAAQS = California ambient air quality standards
NAAQS = national ambient air quality standards
ppm = parts per million

Sources: California Air Resources Board 2001 and U.S. Environmental Protection Agency 2001.

**Table 4-4.** Summary of Carbon Monoxide Monitoring Data for Placer County, 1995–2000

| Monitoring Station | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|---|---|---|---|---|---|
| **Rocklin: Rocklin Road** | | | | | | |
| Maximum 8-hour concentration (ppm) | 1.64 | 1.40 | NA | NA | NA | NA |
| Maximum 1-hour concentration (ppm) | NA | 3.10 | NA | NA | NA | NA |
| Days standard exceeded | | | | | | |
| CAAQS (8-hour) ≥ 9.0 ppm | 0 | 0 | NA | NA | NA | NA |
| NAAQS (8-hour) ≥ 9.0 ppm | 0 | 0 | NA | NA | NA | NA |
| CAAQS (1-hour) ≥ 20 ppm | 0 | 0 | NA | NA | NA | NA |
| NAAQS (1-hour) ≥ 35 ppm | 0 | 0 | NA | NA | NA | NA |
| **Roseville: North Sunrise Boulevard** | | | | | | |
| Maximum 8-hour concentration (ppm) | 2.15 | 2.81 | 2.15 | 2.36 | 2.24 | 2.36 |
| Maximum 1-hour concentration (ppm) | NA | 4.50 | 3.70 | 4.20 | 3.90 | 3.20 |
| Days standard exceeded | | | | | | |
| CAAQS (8-hour) ≥ 9.0 ppm | 0 | 0 | 0 | 0 | 0 | 0 |
| NAAQS (8-hour) ≥ 9.0 ppm | 0 | 0 | 0 | 0 | 0 | 0 |
| CAAQS (1-hour) ≥ 20 ppm | 0 | 0 | 0 | 0 | 0 | 0 |
| NAAQS (1-hour) ≥ 35 ppm | 0 | 0 | 0 | 0 | 0 | 0 |
| **Tahoe City: River Road** | | | | | | |
| Maximum 8-hour concentration (ppm) | 2.91 | NA | NA | NA | NA | NA |
| Maximum 1-hour concentration (ppm) | NA | NA | NA | NA | NA | NA |
| Days standard exceeded | | | | | | |
| CAAQS (8-hour) ≥ 9.0 ppm | 0 | NA | NA | NA | NA | NA |
| NAAQS (8-hour) ≥ 9.0 ppm | NA | NA | NA | NA | NA | NA |
| CAAQS (1-hour) ≥ 20 ppm | NA | NA | NA | NA | NA | NA |
| NAAQS (1-hour) ≥ 35 ppm | NA | NA | NA | NA | NA | NA |

Notes:
CAAQS = California ambient air quality standards.
NAAQS = national ambient air quality standards.
ppm = parts per million.
NA = not applicable.

Sources: California Air Resources Board 2001 and U.S. Environmental Protection Agency 2001.

dioxide ($NO_2$) and sulfur dioxide ($SO_2$) with ammonia. Fine particles pose a serious health hazard, either alone or in combination with other pollutants. The smallest particles inhaled will be deposited in the lungs and can cause permanent lung damage. Fine particles also can have a damaging effect on health by interfering with the body's mechanism for clearing the respiratory tract or by acting as a carrier of absorbed toxic substances.

### State and Federal Standards

Both the federal and state standards for particulate matter have been revised to apply only to PM10. State and federal PM10 standards have been set for 24-hour and annual averaging times. As shown in Table 4-1, the state and federal 24-hour standards are 50 and 150 micrograms per cubic meter ($\mu g/m^3$), respectively. The state annual standard is 30 $\mu g/m^3$ as an annual geometric mean, and the federal annual PM10 standard is 50 $\mu g/m^3$ as an annual arithmetic mean. (*Geometric mean* equals the *n*th root of the product of *n* observations. *Arithmetic mean* is the sum of the total observations divided by the number of observations.) Federal and state 24-hour standards may not be exceeded more than 1 day per year, and annual standards are not to be exceeded.

As shown in Table 4-5, the project area has occasionally violated the state PM10 standard. A variety of emission sources contribute to particulate matter problems; agricultural activities, dust suspended by vehicle traffic, and aerosols formed by photochemical smog reactions are major contributors. Also, particulate matter emissions from industrial sources can be important localized emission sources.

# Regulatory Setting

## Existing Air Quality Management in Placer County

The Placer County Air Pollution Control District (PCAPCD) is responsible for maintaining and improving air quality throughout Placer County. Although PCAPCD has primary responsibility for air quality in Placer County, many agencies are involved in air pollution control, including EPA, ARB, and the Sacramento Area Council of Governments (SACOG). The duties of these agencies have been modified by the California Clean Air Act of 1988 (California CAA) and the federal Clean Air Act Amendments of 1990 (CAAAs).

Each law specifies deadlines for submitting air quality attainment plans, which must contain specific measures designed to achieve the state and federal ambient air quality standards.

## Federal

The CAAAs give EPA additional authority to require states to reduce emissions of CO, ozone precursors, and PM10 in nonattainment areas. They set new attainment deadlines based on the severity of the problem.

EPA has delegated responsibility for many implementation and oversight tasks to ARB and, indirectly, to PCAPCD. ARB traditionally has established state air quality standards, maintained oversight authority in air quality planning, developed programs for reducing emissions from motor vehicles, developed air emission inventories, collected air quality and meteorological data, and approved state implementation plans. The responsibilities of air pollution control districts (e.g., PCAPCD) include overseeing stationary source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality–related sections of environmental documents required by CEQA.

## State

The California CAA designates air pollution control districts as lead air quality planning agencies, requires them to prepare air quality plans, and grants them authority to implement transportation control measures (TCMs). TCMs are defined in the California CAA as "any strategy to reduce trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing vehicle emissions."

The California CAA focuses on attainment of the state ambient air quality standards, which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards. The California CAA requires designation of attainment and nonattainment areas with respect to state ambient air quality standards. The California CAA also requires that air pollution control districts prepare an air quality attainment plan if the district violates state air quality standards for CO, $SO_2$, $NO_2$, or ozone. No locally prepared attainment plans are required for areas that violate the state PM10 standards. The California CAA requires that the state air quality standards be met as expeditiously as practicable but, unlike the federal CAA, does not set precise attainment deadlines. Instead, it establishes increasingly stringent requirements for areas that will require more time to achieve the standards.

The California CAA emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. It gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish TCMs. The California CAA does not define indirect and area-wide sources, but Section 110 of the federal CAAAs defines an indirect source as

> a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution. Such term includes parking lots, parking garages, and other facilities subject to any measure for management of parking supply....

### State Implementation Plan

PCAPCD is responsible for preparing and submitting to ARB air quality attainment plans for criteria pollutants for which the portion of Placer County

**Table 4-5.** Summary of PM10 Monitoring Data for Placer County, 1995–2000



| Monitoring Station | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|---|---|---|---|---|---|
| **Auburn: Dewitt Avenue** | | | | | | |
| Maximum 24-hour concentration (μg/m$^3$) | 55 | 98 | 54 | NA | NA | NA |
| Second highest 24-hour concentration (μg/m$^3$) | 44 | 47 | 51 | NA | NA | NA |
| Average geometric mean concentration (μg/m$^3$) | 23.3 | 15.5 | 12.4 | NA | NA | NA |
| Average arithmetic mean concentration (μg/m$^3$) | NA | 22.5 | 15.4 | NA | NA | NA |
| Days standard exceeded[a] | | | | | | |
| CAAQS (24-hour) > 50 μg/m$^3$ | 0 | 6 | 12 | NA | NA | NA |
| NAAQS (24-hour) > 150 μg/m$^3$ | 0 | 0 | 0 | NA | NA | NA |
| **Colfax: City Hall** | | | | | | |
| Maximum 24-hour concentration (μg/m$^3$) | 86 | 60 | 74 | NA | NA | NA |
| Second highest 24-hour concentration (μg/m$^3$) | 54 | 50 | 66 | NA | NA | NA |
| Average geometric mean concentration (μg/m$^3$) | 26.7 | 17.8 | 14.1 | NA | NA | NA |
| Average arithmetic mean concentration (μg/m$^3$) | NA | 21.4 | 21.9 | NA | NA | NA |
| Days standard exceeded[a] | | | | | | |
| CAAQS (24-hour) > 50 μg/m$^3$ | 18 | 6 | 36 | NA | NA | NA |
| NAAQS (24-hour) > 150 μg/m$^3$ | 0 | 0 | 0 | NA | NA | NA |
| **Lincoln: L Street** | | | | | | |
| Maximum 24-hour concentration (μg/m$^3$) | 84 | 60 | 66 | NA | NA | NA |
| Second highest 24-hour concentration (μg/m$^3$) | 67 | 47 | 66 | NA | NA | NA |
| Average geometric mean concentration (μg/m$^3$) | 33.9 | 18.5 | 15.7 | NA | NA | NA |
| Average arithmetic mean concentration (μg/m$^3$) | NA | 23.3 | 21.7 | NA | NA | NA |
| Days standard exceeded[a] | | | | | | |
| CAAQS (24-hour) > 50 μg/m$^3$ | 18 | 6 | 24 | NA | NA | NA |
| NAAQS (24-hour) > 150 μg/m$^3$ | 0 | 0 | 0 | NA | NA | NA |
| **Rocklin: Rocklin Road** | | | | | | |
| Maximum 24-hour concentration (μg/m$^3$) | 55 | 34 | 43 | 70.0 | 75.0 | 46.0 |
| Second highest 24-hour concentration (μg/m$^3$) | 47 | 33 | 36 | 47.0 | 72.0 | 41.0 |
| Average geometric mean concentration (μg/m$^3$) | 20.8 | 16.6 | 19.0 | 16.6 | 21.3 | 19.8 |
| Average arithmetic mean concentration (μg/m$^3$) | 21.6 | 18.3 | 19.9 | 19.4 | 24.8 | 20.7 |
| Days standard exceeded[a] | | | | | | |
| CAAQS (24-hour) > 50 μg/m$^3$ | 3 | 0 | 0 | 6 | 24 | 0 |
| NAAQS (24-hour) > 150 μg/m$^3$ | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 4-5.** Continued



| Monitoring Station | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|---|---|---|---|---|---|---|
| **Roseville: North Sunrise Boulevard** | | | | | | |
| Maximum 24-hour concentration ($\mu g/m^3$) | 61 | 39 | 50 | 67 | 89 | 58 |
| Second highest 24-hour concentration ($\mu g/m^3$) | 53 | 39 | 39 | 62 | 83 | 50 |
| Average geometric mean concentration ($\mu g/m^3$) | 22.8 | 19.2 | 20.8 | 19.4 | 22.5 | 22.1 |
| Average arithmetic mean concentration ($\mu g/m^3$) | 23.5 | 20.5 | 21.8 | 22.4 | 26.1 | 23.9 |
| Days standard exceeded[1] | | | | | | |
| CAAQS (24-hour) > 50 $\mu g/m^3$ | 2 | 0 | 0 | 18 | 24 | 6 |
| NAAQS (24-hour) > 150 $\mu g/m^3$ | 0 | 0 | 0 | 0 | 0 | 0 |

Notes: CAAQS = California ambient air quality standards.
NAAQS = national ambient air quality standards.
NA = not applicable.
µg/m3 = micrograms per cubic meter.

[a] Calculated exceedances based on measurements taken every 6 days.

Sources: California Air Resources Board 2001 and U.S. Environmental Protection Agency 2001.

within the SVAB, MCAB, and Lake Tahoe Air Basin is not in attainment. ARB must review these plans and forward them, along with the plans of the other districts throughout the state (collectively called the State Implementation Plan [SIP]), to EPA Region IX for approval. EPA requires a separate compliance plan for each federally designated nonattainment pollutant.

The five air pollution control districts in the SVAB, including PCAPCD, as well as ARB and SACOG, helped to prepare the Sacramento Area Regional Ozone Attainment Plan (OAP). The OAP was prepared to fulfill the requirements of the federal CAAAs and was submitted to EPA on November 15, 1994, as part of California's SIP. PCAPCD adopted the OAP in 1994 to address ozone pollution control problems in the district and to implement strategies for reducing air pollution to attainment levels. The OAP does not address particulate matter; PM10 was excluded from planning requirements by the California CAA because of the difficulty in managing it. The OAP is still in effect. A triennial report was released in 2000 detailing the progress of the 1994 plan.

The SIP consists of adopted measures, commitments to adopt new measures, emission inventories, air quality modeling results, contingency measures, and a demonstration of emission reductions sufficient for attainment and rate-of-progress milestones. The new measures proposed in the SIP build on existing state and local air quality programs.

Based on ozone levels recorded between 1988 and 1991, the lower SVAB, including the Placer County portion, was classified by the EPA as a nonattainment area, with attainment required by 1999. However, no feasible controls could be identified that would provide the needed reductions by 1999; the earliest possible attainment date identified was 2005. The shift to 2005 required that several additional controls be implemented in Placer County. The emission-offsets requirement for new and modified sources was increased from a ratio of 1.2:1 to 1.3:1.

Failure to attain the health-based ambient air quality standards for ozone by 2005, as required by the CAA, could result in the loss of federal highway funds, increase fees for existing sources, and very stringent standards for new sources of pollution. If PCAPCD determines that ozone attainment cannot be achieved by 2005, the SIP would need to be revised to show a later attainment date, and the region's attainment status would be redesignated from *severe* nonattainment to *extreme* nonattainment. Redesignation would allow the region more time to comply with ambient air quality standards for ozone, although more stringent reductions and attainment measures would be required. If the region chooses not to prepare a new SIP, EPA would prepare a Federal Implementation Plan (FIP), and the region would have to follow the measures identified in the FIP.

[1] Under the old requirement, for any new emissions generated from a major stationary source, emission offsets must be purchased equal to 1.2 times the emissions generated. For example, if a new stationary source emits 100 tons of $NO_x$, it must purchase offsets of 120 tons. Under the new requirement, offsets must be purchased to 1.3 times emissions generated—130 tons of $NO_x$ for the example given.

### Local

#### Placer County Air Quality Conditions of Approval

Placer County has developed a list of sample conditions of approval that should be considered by all applicants (including the County itself) requesting entitlements from Placer County. The conditions include submittal of a dust control plan, minimization of open burning of wood/vegetative waste materials, and certification by EPA of all woodburning devices used in the project. This list of conditions is shown below (Placer County 2001).

- **ap1.** The applicant shall submit a dust control plan to the APCD *[PCAPCD]* no later than 45 days prior to groundbreaking. The applicant shall not break ground prior to receiving APCD approval of the dust control plan.
- **ap2.** No open burning shall occur unless the applicant demonstrates, in writing, to the APCD that alternatives to open burning have been explored and that open burning is the only feasible method of disposal. The District's issuance of a Burn Permit will be dependent upon the applicant's successful demonstration that no other feasible method of disposal exists. Any burning must be done in conformance with APCD Regulation 3 (Open Burning). The burning of construction/demolition debris is prohibited.
- **ap3.** The applicant shall ensure that the project conforms with all APCD Rules and Regulations. Contact the APCD to review any rules that may apply to specific types of projects.

PCAPCD also has developed a list of best available mitigation measures that should be considered for various projects. The list includes measures related to project design/construction, traffic flow improvements, public/private trip reduction programs, parking, ridesharing, telecommunications, alternative transportation, transit, and bicycle/pedestrian use. Appendix C lists the best available air quality mitigation measures.

# Environmental Consequences

## Criteria for Determining Significance under CEQA

Appendix G of the State CEQA Guidelines, Placer County thresholds, and standard professional practice were used to determine whether the proposed project would have a significant environmental effect. The proposed action may have a significant effect on air quality if it would

- violate any air quality standard or contribute to an existing or projected air quality violation;
- expose sensitive receptors to pollutants;

- increase localized CO levels at nearby intersections in violation of adopted standards;
- create objectionable odors; or
- conflict with or obstruct implementation of an applicable air quality plan.

In addition to the criteria described above, PCAPCD has specified significance thresholds to determine whether mitigation is needed for project-related impacts on air quality. Project-related emissions are considered significant if emissions would exceed 82 pounds per day (ppd) of ROG, $NO_x$, oxides of sulfur (SOx), or PM10 (Vintze pers. comm.). For projects that exceed these levels, project applicants must implement all feasible mitigation measures to reduce impacts to less-than-significant levels.

# Methods and Assumptions for the Impact Analysis

## Construction-Related Impact Assessment Methodology

Construction is a source of dust and exhaust, which can have substantial temporary impacts on local air quality (i.e., causing PM10 concentrations to exceed state air quality standards). Such emissions would result from the use of heavy equipment, as well as from land clearing, ground excavation, cut and fill operations, and roadway construction. Dust emissions can vary substantially from day to day, depending on the level of activity, the specific operations, and the prevailing weather. A major portion of dust emissions for the proposed project likely would be caused by construction traffic on temporary construction roads.

Construction emissions were estimated by using version 4.1 of the road construction model developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD). The road construction model is a public-domain spreadsheet model formatted as a series of individual worksheets. The model enables users to estimate emissions using a minimum amount of project-specific information. The model estimates emissions for load hauling (on-road heavy-duty vehicle trips), worker commute trips, construction site fugitive PM10 dust, and off-road construction vehicles. Although exhaust emissions are estimated for each activity, fugitive dust estimates currently are limited to grubbing/land clearing and grading/excavation.

## Operation-Related Impact Assessment Methodology

The primary operation-related pollutants that would be associated with the proposed project are CO, PM10, and ozone precursors emitted as vehicle exhaust. The effects of CO emissions were evaluated through CO dispersion modeling, as described below. The effects of PM10 and ozone precursors were evaluated through the conformity process, also described below.

## CO Dispersion Modeling

Predicting the ambient air quality impacts of pollutant emissions requires an assessment of the transport, dispersion, chemical transformation, and removal processes that affect pollutants after their release from a source. Gaussian dispersion models frequently are used for such analyses. The term "Gaussian dispersion" refers to a general type of mathematical equation used to describe the horizontal and vertical distribution of pollutants downwind from an emission source.

Gaussian dispersion models assume that pollutant emissions are carried downwind in a defined plume, subject to horizontal and vertical mixing with the surrounding atmosphere. The plume spreads horizontally and vertically, so pollutant concentrations decrease as the plume travels downwind. The most mixing with the surrounding atmosphere occurs at the edge of the plume, resulting in lower pollutant concentrations outward (horizontally and vertically) from the center of the plume. This decrease in concentration outward from the center of the plume is assumed to follow a Gaussian ("normal") statistical distribution. Horizontal and vertical mixing generally occur at different rates. Because turbulent motions in the atmosphere take place on a variety of spatial and temporal scales, vertical and horizontal mixing also vary with distance downwind from the emission source.

### The CALINE4 Model

The ambient air quality effects of traffic emissions were evaluated using the CALINE4 dispersion model (Benson 1989). CALINE4 is a Gaussian dispersion model specifically designed to evaluate the air quality impacts of roadway projects. Each roadway link analyzed in the model is treated as a series of short segments. Each segment is treated as a separate emission source producing a plume of pollutants that disperses downwind. Pollutant concentrations at any specific location are calculated using the total contribution from overlapping pollution plumes that originate from the series of roadway segments.

When winds are essentially parallel to a roadway link, pollution plumes from all roadway segments overlap. This overlap produces high concentrations near the roadway (near the center of the overlapping pollution plumes) and low concentrations well away from the roadway (at the edges of the overlapping pollution plumes). When winds are at an angle to the roadway link, pollution plumes from distant roadway segments make essentially no contribution to the pollution concentration observed at a given location. Under such cross-wind situations, pollutant concentrations near the roadway are lower than under parallel wind conditions (because of fewer overlapping plume contributions), whereas pollutant concentrations away from the roadway may be higher (near the center of at least some pollution plumes) than would occur with parallel winds.

The CALINE4 model employs a "mixing cell" approach to estimating pollutant concentrations over the roadway itself. The size of the mixing cell over each roadway segment is based on the width of the traffic lanes (generally 3.6 meters [12 feet] per lane) plus an additional turbulence zone on either side (generally 3 meters [10 feet] on each side). Parking lanes and roadway shoulders are not counted as traffic lanes. The height of the mixing cell is calculated by the model.

Pollutants emitted along a roadway link are treated as being well mixed within the mixing cell volume because of mechanical turbulence caused by moving vehicles and convective mixing resulting from the temperatures of vehicle exhaust gases. Pollutant concentrations downwind from the mixing cell are calculated using horizontal and vertical dispersion rates that are a function of various meteorological and ground surface conditions.

### Modeling Procedures

**Roadway and Traffic Conditions.** Traffic volumes and operating conditions used in the modeling were obtained from the traffic analysis prepared for the proposed project. CO modeling was conducted for the study intersections (i.e., the intersections of Douglas Boulevard, Eureka Road, and Oak Hill Drive with Auburn-Folsom Road) using p.m. peak-hour traffic volumes.

CO modeling was performed for the following scenario:

- Cumulative with-project condition—2020

The 2005 construction year "with-project" scenario was not modeled because all the intersections and links are at LOS C or better. The CO protocol calls for CO modeling at intersections and links that operate at LOS D or worse.

**Vehicle Emission Rates.** Vehicle emission rates were based on ARB's EMFAC7F (version 1.1) emission rate program. A cold-start percentage of 10% and a hot-start percentage of 50% were assumed for the analysis. Free-flow traffic speeds were adjusted to reflect congested speeds using methods in the *Highway Capacity Manual* (Transportation Research Board 2000).

**Receptor Locations.** CO concentrations were estimated for four receptor locations at intersections with LOS D or worse. The receptors were assumed to be located at 30 meters (100 feet) from the center of the roadway. Receptor heights were set at 1.8 meters (5.9 feet).

**Meteorological Conditions.** Meteorological inputs to the CALINE4 model were determined using methods recommended in Caltrans' CO modeling protocol (Garza et al. 1997). The meteorological conditions used in the modeling represent a calm winter period. Worst-case wind angles were modeled to determine a worst-case pollutant concentration at each receptor. The meteorological inputs include 0.5-meter-per-second (1.6-foot-per-second) wind speed, ground-level temperature inversion (atmospheric stability class G), wind direction standard deviation equal to 5°, and a mixing height of 1,000 meters (3,281 feet).

**Background Concentrations and 8-Hour Values.** Background concentrations of 3.4 parts per million (ppm) and 2.2 ppm were added to the modeled 1-hour and 8-hour values, respectively, to account for sources of CO not included in the modeling. Eight-hour modeled values were calculated from the 1-hour modeled values using a persistence factor of 0.7. Background concentration data represented an average of the past 3 years of monitoring data, taken from the closest monitoring station (in Roseville).

### Transportation Conformity

The proposed project is located in an area designated as nonattainment for the federal ozone standards. Because ozone precursors are regional pollutants, the proposed project must be evaluated under the transportation conformity requirements. The conformity analysis is performed on the Regional Transportation Plan (RTP), which includes the proposed project. An affirmative regional conformity determination must be made before the proposed project can proceed. Such a determination is not required if the proposed project is described in the approved RTP and Transportation Improvement Program (TIP), and if the project has not been altered in design concept or scope from that in the RTP. A subsequent conformity determination is not required.

Implementation of the proposed project also would result in emission of CO from motor vehicles. Because CO is a localized pollutant, microscale air quality modeling must demonstrate that the proposed project would not cause or contribute to violations of the 1-hour or 8-hour CO national ambient air quality standards (NAAQS).

# Impacts

## Construction-Related Impacts

### Impact 4.1 Temporary Increase in ROG, $NO_x$, and PM10 Emissions During Grading and Construction Activities

The proposed project involves construction of two new travel lanes, bike lanes, and a median. Typically, there are four activities associated with road construction: 1) grubbing and land clearing; 2) grading and excavation; 3) constructing drainage, utilities, and sub-grade features; and 4) paving. The road construction model was used to estimate construction-related ROG, $NO_x$, and PM10 emissions associated with these activities. The results are shown in Table 4-6.

**Table 4-6.** Construction Emission Estimates

| | Construction Emission Estimates (Pounds per Day) | | |
|---|---|---|---|
| Construction Phase | ROG | $NO_x$ | PM10 |
| Grubbing and land clearing | 15 | 133 | 15 |
| Grading and excavation | 15 | 129 | 15 |
| Drainage, utilities, and sub-grade features | 19 | 165 | 8 |
| Paving | 13 | 115 | 5 |
| Maximum | 19 | 165 | 15 |
| Significance threshold | 82 | 82 | 82 |
| Exceed threshold? | No | Yes | No |

Note: PM10 estimates assume 50% control of fugitive dust from watering and associated dust control measures.

Source: Road Construction Model Version 4.1

The predicted $NO_x$ emissions would exceed the threshold of 82 pounds per day set by PCAPCD.

This impact is common to all build alternatives and is considered significant. Implementation of Mitigation Measure P4.1 would reduce the effect of $NO_x$ emissions, but would not reduce this impact to a less-than-significant level. Therefore, this impact is considered significant and unavoidable.

# Operation-Related Impacts

## Impact 4.2 Increase in Local CO Concentrations

CO concentrations were estimated for the three intersections (i.e., the intersections of Douglas Boulevard, Eureka Road, and Oak Hill Drive with Auburn-Folsom Road) that are projected to operate at LOS D or worse in 2020 under cumulative with-project conditions. Table 4-7 summarizes the CO modeling results. No violations of either the 1-hour or the 8-hour state CO standard would occur under the 2020 with-project scenario. On the basis of assumptions about improvements in vehicle emission technology and the turnover in the vehicle fleet, estimated future CO concentrations for the project condition would be well below the thresholds established for the state and federal ambient CO standards.

This impact is common to all build alternatives and is considered less than significant. No mitigation is required.

### Impact 4.3 Consistency with Regional Transportation Plans

The proposed project is included in the 2025 Metropolitan Transportation Plan (MTP) and the 2003/05 Metropolitan Transportation Improvement Program (MTIP). CO modeling was conducted to evaluate whether the project would cause or contribute to local violations of the state or federal ambient air quality standards at sensitive receptors in the project vicinity. As described above, the proposed project would not cause or contribute to violations of the CO ambient air quality standards. Consequently, the project would be a conforming transportation project.

This impact is common to all build alternatives and is considered less than significant. No mitigation is required.

# Mitigation Measures

This section details the mitigation measures identified for the project alternatives. Mitigation measures are identified as either of the following.

- *Proposed mitigation measures* are measures that the Placer County DPW, as project proponent, is either proposing as part of the project design or has agreed to implement.
- *Recommended mitigation measures* are measures that are identified in this environmental document but that the Placer County DPW has not chosen to implement, and which may be required by the Placer County Board of Supervisors if the project is approved.

## Proposed Mitigation Measures

#### Mitigation Measure P4.1: Implement Best Available Mitigation Measures for Construction Activities

1. Construction equipment exhaust emissions shall not exceed PCAPCD Rule 202 Visible Emission limitations.
2. Placer County DPW shall submit to PCAPCD, and receive approval of, a Construction Emission/Dust Control Plan before groundbreaking.
3. The prime contractor shall submit to PCAPCD a comprehensive inventory (listing make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower [hp] or greater) that will be used an aggregate of 40 or more hours for the project. PCAPCD personnel, with assistance from ARB, shall conduct initial Visible Emission Evaluations (VEEs) of all heavy-duty equipment on the inventory list.
4. Placer County DPW shall establish an enforcement plan to evaluate, on a weekly basis, project-related on- and-off-road heavy-duty vehicle engine emission opacities, using standards defined in 13 CCR 2180–2194. An

**Table 4-7.** CO Modeling Results

| Intersection | Receptor Location | CO Concentrations (ppm) Cumulative with-Project Conditions (2020) 1 hour | 8 hour |
|---|---|---|---|
| Auburn-Folsom Road and Douglas Boulevard | NW Corner | 4.6 | 3.0 |
| | NE Corner | 4.4 | 2.9 |
| | SE Corner | 4.6 | 3.0 |
| | SW Corner | 4.3 | 2.8 |
| Auburn-Folsom Road and Eureka Road | NW Corner | 4.5 | 3.0 |
| | NE Corner | 4.3 | 2.8 |
| | SE Corner | 4.4 | 2.9 |
| | SW Corner | 4.4 | 2.9 |
| Auburn-Folsom Road and Oak Hill Drive | NW Corner | 4.2 | 2.8 |
| | NE Corner | 4.2 | 2.8 |
| | SE Corner | 4.1 | 2.7 |
| | SW Corner | 4.2 | 2.8 |
| Ambient Standards | | 20* | 9.0 |

Notes:
Background concentrations of 3.4 ppm and 2.2 ppm were added to the 1-hour and 8-hour results, respectively.
*The federal 1-hour standard is 35 ppm.

Environmental Coordinator, ARB-certified to perform VEEs, shall routinely evaluate project-related off-road and heavy-duty on-road equipment emissions for compliance with this requirement. Operators of vehicles and equipment found to exceed opacity limits shall be notified, and the equipment must be repaired within 72 hours of notification.

5. Construction contracts shall stipulate that at least 20% of the heavy-duty off-road equipment included in the inventory be powered by ARB-certified off-road engines, as follows:

| | |
|---|---|
| 175 hp–750 hp | 1996 and newer engines |
| 100 hp–174 hp | 1997 and newer engines |
| 50 hp–99 hp | 1998 and newer engines |

In lieu of or in addition to this requirement, Placer County DPW can use other measures to reduce PM10 and $NO_x$ emissions from its project through the use of emulsified diesel fuel and/or particulate matter traps. PCAPCD shall be contacted to discuss this measure.

6. Placer County DPW shall conduct no open burning of removed vegetation during construction. Vegetative material shall be chipped or delivered to waste-to-energy facilities.
7. Placer County DPW shall ensure that earthmoving construction equipment is cleaned with water once per day.
8. Placer County DPW shall ensure that soil binders are spread on unpaved roads and on employee/equipment parking areas.
9. Placer County DPW shall ensure that approved chemical soil stabilizers are applied, according to manufacturers' specifications, to all inactive construction areas (previously graded areas that remain inactive for 96 hours).
10. Placer County DPW shall ensure that ground cover is reestablished on the construction site as soon as possible through seeding and watering.

## Recommended Mitigation Measures

There are no recommended air quality mitigation measures.

**Table 4-8.** Air Quality Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **AIR QUALITY** | | | | |
| Impact 4.1 Temporary Increase in ROG, NOx, and PM10 Emissions During Grading and Construction Activities | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P4.1: Implement Best Available Mitigation Measures for Construction Activities | P4.1: Implement Best Available Mitigation Measures for Construction Activities | P4.1: Implement Best Available Mitigation Measures for Construction Activities | P4.1: Implement Best Available Mitigation Measures for Construction Activities |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 4.2 Increase in Local CO Concentrations | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |

**Table 4-8.** Air Quality Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Impact 4.3 Consistency with Regional Transportation Plans | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |

Key:

SU = Significant and unavoidable.

S = Significant.

PS = Potentially significant.

LS = Less than significant.

NI = No impact.

NA = Not applicable.

Chapter 5

# Hydrology and Water Quality

This chapter describes water resources in project region, regulations and policies pertaining to hydrology and water quality, and the proposed project's potential impacts on hydrology and water quality.

# Affected Environment

## Environmental Setting

### Climate

The north Pacific high-pressure system dominates the project region's large-scale meteorology and produces northerly winds along the west coast of the United States during most of the year. The average annual precipitation in the project area is 58 centimeters (23 inches) (California Data Exchange Center 2002), but precipitation in summer is infrequent; most precipitation is associated with rainstorms that occur from October through April. Rainstorms originate over the Pacific Ocean and carry considerable moisture. In the project area, such storms usually last 1 to 4 days. Cloudbursts occurring within rainstorms are often the cause of flooding in watersheds of a few hundred square miles or less and below 1,220 meters (4,000 feet) above sea level (Placer County Flood Control and Water Conservation District 1994). A cloudburst is a severe thunderstorm with very intense, short-lived rainfall, often accompanied by hail, strong winds, or tornadoes. Cloudbursts are most likely to occur inland at lower elevations, in winter or early spring, and in association with subtropical moisture sources. In western Placer County, cloudbursts usually cover an area smaller than 777 square kilometers (300 square miles) and last less than 2 hours (Placer County Flood Control and Water Conservation District 1994).

### Surface Water

The project area is located in the approximately 202-square-kilometer (78-square-mile) Dry Creek watershed. Topography in the area is relatively gentle (less than 2% slope). The soils underlying the project area can be assigned hydrologic classifications based on the U.S. Soil Conservation Service's (SCS's)

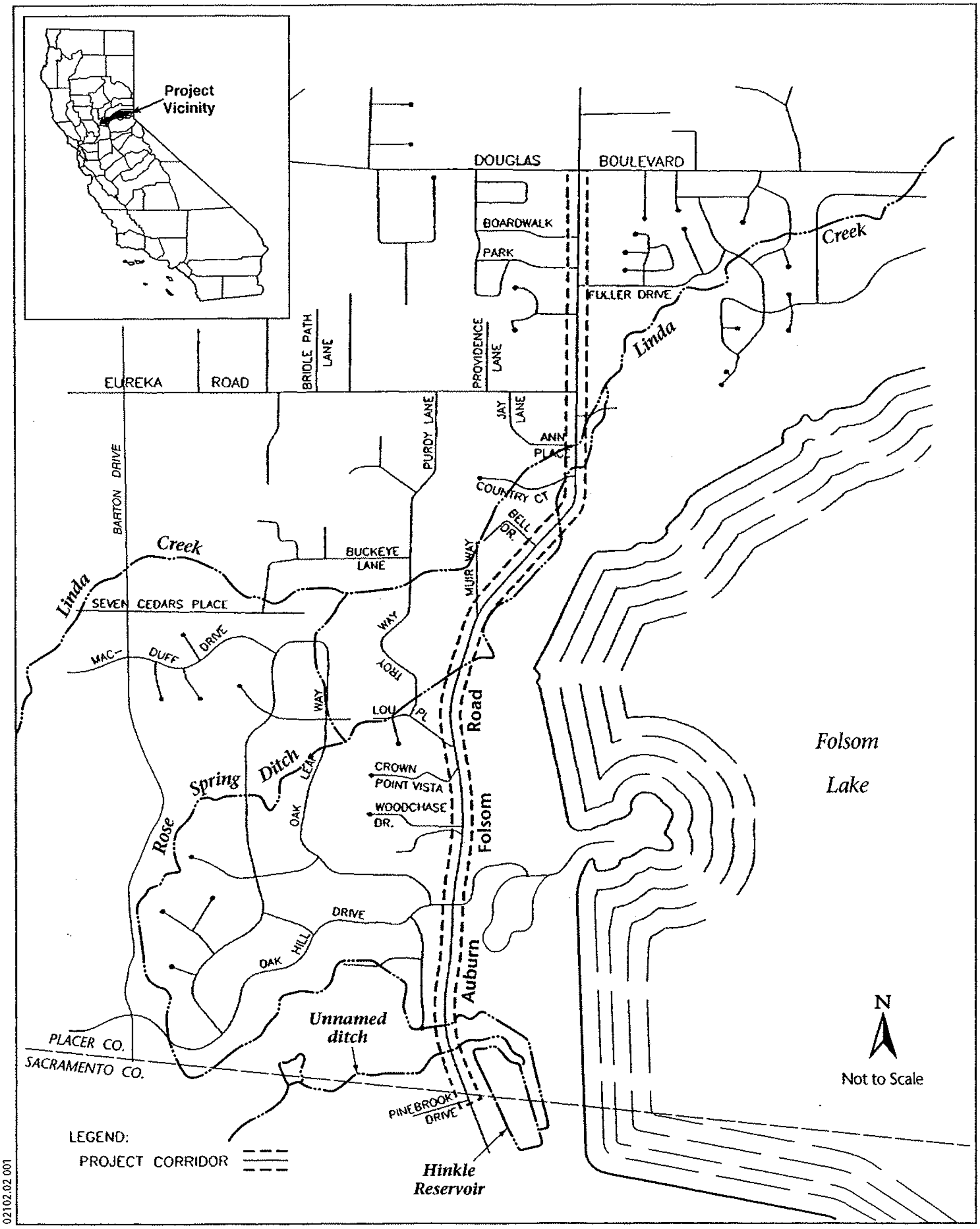
Technical Release 55 methodology (1986). Soils are grouped into one of the following categories based on infiltration rates.

- **Group A: Low runoff potential.** These soils have high infiltration rates even when thoroughly wetted and consist chiefly of deep, well- to excessively drained sands or gravels.
- **Group B: Moderately low runoff potential.** These soils have moderate infiltration rates when thoroughly wetted and consist chiefly of moderately deep to deep, moderately well- to well-drained soils with fine to moderately coarse textures. These soils have a moderate rate of water transmission.
- **Group C: Moderately high runoff potential.** These soils have slow infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.
- **Group D: High runoff potential.** These soils have very slow infiltration rates when thoroughly wetted and consist chiefly of clay soils with a high potential for swelling, soils with a permanent high-water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very slow rate of water transmission.

Approximately 90% of the project area is underlain by soils that can be classified as hydrologic soil group C. The remaining 10% of the project area is underlain by soils that can be classified as hydrologic soil group D.

Linda Creek is a major tributary of Dry Creek and is crossed by the project corridor approximately 61 meters (200 feet) south of the Eureka Road/Auburn-Folsom Road intersection (Figure 2-2). This crossing was studied by the Placer County Flood Control and Water Conservation District (PCFCWCD) and the Sacramento County Water Agency (SCWA) in the Dry Creek Watershed Control Plan (Plan) (Placer County Flood Control and Water Conservation District and Sacramento County Water Agency 1992). The existing Linda Creek crossing consists of a 22-meter-long (72-foot-long), 1.3- by 1.8-meter (4.3- by 6-foot) corrugated metal arch culvert with approximately 0.28% slope. The project corridor also crosses Rose Spring Ditch and an unnamed ditch, both associated with Hinkle Reservoir (Figure 5-1).

Watershed models developed for the Plan used aerial photography from 1989. Future watershed conditions were determined using land use estimates for full buildout of current general and specific plans. Based on topography, soils, culvert size, channel configuration, and land use information, the following flows were calculated as part of the Plan (Table 5-1).

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Jones & Stokes

**Figure 5-1**
**Water Resources in the Project Area**

**Table 5-1.** 1989 and Future (Buildout) Flows at Linda Creek

| | Flows (cfs) | | | |
|---|---|---|---|---|
| Current Capacity of Culvert (cfs) | 100-Year-Flood (1989 Data) | 100-Year-Flood (Future) | 25-Year-Flood (1989 Data) | 25-Year-Flood (Future) |
| 180 | 169 | 330 | 75 | 197 |

cfs = cubic feet per second.

Note: The flows listed in Table 5-1 are overtopping flow rates, not total peak flow rates at the existing culvert. Per Table 2-7 of the 1992 Dry Creek Watershed Flood Control Plan, PCFCWCD recommends the following total peak flow rates for Linda Creek at Auburn-Folsom Road: 25-year (1989) = 255 cfs; 25-year (future) = 377 cfs; 100-year (1989) = 349 cfs; 100-year (future) = 510 cfs.

As shown in the Table 5-1, the predicted 25-year and 100-year floodflows at the Linda Creek culvert would exceed the capacity of the culvert, although the flows during 1989 did not. The increased flows would result from development of the region, which will increase runoff in waterways.

At the south end of the project area, the road also crosses an unnamed ditch that feeds into Baldwin Reservoir.

## Groundwater

The Sierra Nevada foothills are composed of metamorphic rock heavily intruded with granitic magmas that have limited water-bearing capacity, although some fresh water may be found in fractures and joints. Most groundwater occurs in quartz veins that are found along moderately dipping shear zones and major joints.

Recent stream deposits and older terrace deposits are more permeable than fractured bedrock but generally are too small and isolated to provide a significant regional groundwater supply. These unconsolidated deposits are shallow veneers over bedrock and are susceptible to surface contamination and interrupted yield during drought years.

# Regulatory Setting

## Federal

### Clean Water Act

There are several sections of the Clean Water Act that regulate impacts on waters of the United States. Section 101 specifies the objectives of the act, which are implemented largely through Title III ("Standards and Enforcement") and

Section 301 ("Prohibitions"). The discharge of dredged or fill material into waters of the United States is subject to permitting specified under Title IV ("Permits and Licenses") of the act and specifically under Section 404 ("Discharges of Dredge or Fill Material"). Section 401 ("Certification") specifies additional requirements for permit review, particularly at the state level.

Placement of fill materials into waters of the United States is regulated by Section 404 of the Clean Water Act, which is administered by the U.S. Army Corps of Engineers (Corps). Section 401 requires that an applicant pursuing a federal permit (under Section 404) to conduct any activity that may result in a discharge of a pollutant obtain a water quality certification or waiver. Water quality certifications are issued by Regional Water Quality Control Boards (RWQCBs) in California. Under the Clean Water Act, the RWQCB must issue or waive Section 401 water quality certification for the project to be permitted under Section 404. Water quality certification requires the evaluation of water quality considerations associated with dredging or placing fill materials into waters of the United States.

The 1987 amendments to the Clean Water Act created a new section of the Clean Water Act devoted to stormwater permitting (Section 402[p]). The U.S. Environmental Protection Agency (EPA) has granted the State of California primacy in administering and enforcing the provisions of both the Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) permit program. The NPDES program was established by 1972 amendments to the Federal Water Pollution Control Act to control discharges of pollutants from point sources. NPDES is the primary federal program that regulates both point source and nonpoint source discharges to waters of the United States. (*Point sources* are discrete origin points for pollutants, such as an outfall or factory, in contrast to *nonpoint sources* such as agricultural runoff.)

The State of California adopts water quality standards to protect beneficial uses of state waters as required by Section 303 of the Clean Water Act and the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act). Section 303(d) of the Clean Water Act established the Total Maximum Daily Load (TMDL) process to guide the application of state water quality standards (see discussion of state water quality standards below). To identify candidate bodies of water for TMDL analysis, a list of water quality–limited streams was generated. These streams are impaired by the presence of pollutants, including sediment, and are more sensitive to disturbance. According to the most current 303d list (1998), Linda Creek is not considered water-quality limited.

## Federal Flood Insurance Program

Congress, alarmed by increasing costs of disaster relief, passed the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The intent of these acts is to reduce the need for large publicly funded flood control structures and disaster relief by restricting development on floodplains.

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA issues Flood Insurance Rate Maps (FIRMs) for communities participating in the NFIP. These maps delineate flood hazard zones in the community. FIRMs are available for the portions of Placer County in the Linda Creek watershed. According to the most recent FIRM (Map Number 06061C0483 G, Effective Date: November 21, 2001), the project is not located within the 100-year floodplain of Linda Creek or any other body of water.

### Executive Order 11988

Executive Order 11988 (Floodplain Management) addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding projects in floodplains to

- avoid incompatible floodplain development,
- be consistent with the standards and criteria of the NFIP, and
- restore and preserve the natural and beneficial floodplain values.

## State

### The Porter-Cologne Water Quality Control Act

The Porter-Cologne Act established the State Water Resources Control Board (SWRCB) and divided the state into nine regional basins, each with an RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the state's surface water and groundwater supplies.

The Porter-Cologne Act authorizes the SWRCB to draft state policies regarding water quality and issue Waste Discharge Requirements (WDRs) for discharges to state waters. The act requires the SWRCB or the RWQCB to adopt water quality control plans (Basin Plans) for the protection of water quality. A water quality control plan must

- identify beneficial uses of water to be protected,
- establish water quality objectives for the reasonable protection of the beneficial uses, and
- establish a program of implementation for achieving the water quality objectives.

The Basin Plans also provide the technical basis for determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. Basin Plans are updated and reviewed every 3 years. The Central Valley RWQCB has jurisdiction over the project area.

Permits issued to control pollution (i.e., NPDES permits) must implement Basin Plan requirements (i.e., water quality standards) that take into consideration beneficial uses to be protected.

## Local

### Placer County General Plan

The following policies from the Placer County General Plan are applicable to this project.

**Policy 4.E.1.** The County shall encourage the use of natural stormwater drainage systems to preserve and enhance natural features.

**Policy 4.E.4.** The County shall ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County's Development Manual.

**Policy 4.E.5.** The County shall continue to implement and enforce its Grading Ordinance and Flood Damage Prevention Ordinance.

**Policy 4.E.6.** The County shall continue to support the programs and policies of the watershed flood control plans developed by the Flood Control and Water Conservation District.

**Policy 4.E.7.** The County shall prohibit the use of underground storm drain systems in rural and agricultural areas, unless no other feasible alternatives are available for conveyance of stormwater from new development or when necessary to mitigate flood hazards.

**Policy 4.E.10.** The County shall strive to improve the quality of runoff from urban and suburban development through use of appropriate and feasible mitigation measures including, but not limited to, artificial wetlands, grassy swales, infiltration/sedimentation basins, riparian setbacks, oil/grit separators, and other best management practices.

**Policy 4.E.11.** The County shall require new development to adequately mitigate increases in stormwater peak flows and/or volume. Mitigation measures should take into consideration impacts on adjoining lands in the unincorporated area and on properties in jurisdictions within and immediately adjacent to Placer County.

**Policy 4.E.12.** The County shall encourage project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.

**Policy 4.E.13.** The County shall require that new development conforms with the applicable programs, policies, recommendations, and plans of the Placer County Flood Control and Water Conservation District.

**Policy 4.E.14.** The County shall require projects that have significant impacts on the quantity and quality of surface water runoff to allocate land as necessary for the purpose of detaining post-project flows and/or for the incorporation of mitigation measures for water quality impacts related to urban runoff.

**Policy 4.E.15.** The County shall identify and coordinate mitigation measures with responsible agencies for the control of storm sewers, monitoring of discharges, and implementation of measures to control pollutant loads in urban storm water runoff (e.g., California Regional Water Quality Control Board, Placer County Division of Environmental Health, Placer County Department of Public Works, Placer County Flood Control and Water Conservation District).

**Policy 4.F.1.** The County shall require that arterial roadways and expressways, residences, commercial and industrial uses and emergency facilities be protected, at a minimum, from a 100-year storm event.

**Policy 4F.5.** The County shall attempt to maintain natural conditions within the 100-year floodplain of all rivers and streams except under the following circumstances: 1) Where work is required to manage and maintain the stream's drainage characteristics and where such work is done in accordance with the Placer County Flood Damage Prevention Ordinance, California Department of Fish and Game regulations, and Clean Water Act provisions administered by the U.S. Army Corps of Engineers; or 2) When facilities for the treatment of urban runoff can be located in the floodplain, provided that there is no destruction of riparian vegetation.

**Policy 4.F.10.** The County shall preserve or enhance the aesthetic qualities of natural drainage courses in their natural or improved state compatible with flood control requirements and economic, environmental, and ecological factors.

**Policy 4.F.13.** The County shall continue to implement and enforce its Grading Ordinance and Flood Damage Prevention Ordinance.

**Policy 4.F.14.** The County shall ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County's Land Development Manual.

## Placer County Storm Water Manual

The following policies contained in the Placer County Storm Water Manual are applicable to the proposed project.

**Policy 1.** Storm drainage planning and design in western Placer County shall adhere to the criteria presented in this manual. Governmental agencies and engineers shall utilize the manual in the planning of new facilities and in their reviews of proposed works by developers, private parties, and other governmental agencies, including the California Department of Transportation, other elements of the State Government and Federal Government. However, none of the criteria or guidelines is intended to substitute for the sound application of fundamental engineering or scientific principles or to conflict with stated goals and policies.

**Policy 3.** The 100-year flood shall be the criterion for measures intended to minimize property damage, injury, and loss of life.

**Policy 5.** Channel modifications which create problems downstream shall be avoided. Potential problems include erosion, downstream sediment deposition, increase of runoff peaks, and debris transport.

**Policy 15.** Natural drainageways shall be used for storm runoff whenever possible. The environmental value of natural channels is clear. Natural channels are also valuable in controlling storm runoff because vegetation and irregular sections and alignments of natural channels dissipate energy, thereby slowing the runoff. Furthermore, the floodplain typically provides temporary storage of floodwaters which attenuates flood peaks as they pass through the channel reach.

## Granite Bay Community Plan

The following policies from the Granite Bay Community Plan are applicable to the proposed project.

**Policy 15.** Retain in their natural condition all stream influence areas, including floodplains and riparian vegetation areas, while allowing for limited stream crossings for public roads, trails, and utilities.

**Policy 26.** Review proposed projects for their potential adverse affect on water quality.

**Policy 27.** Encourage application of measures to mitigate erosion and water pollution from earth disturbing activities such as land development and road construction.

**Policy 28.** Control of fugitive dust at construction sites by the use of water and other reasonable dust controls shall be required.

**Policy 33.** The standards of the Placer County Grading Ordinance and Resources section of the Granite Bay Community Plan shall be implemented for all projects in the Granite Bay area.

**Policy 36.** Grading activities shall be prohibited during the rainy season.

# Environmental Consequences

## Criteria for Determining Significance under CEQA

Appendix G of the State CEQA Guidelines and standard professional practice were used to determine whether the proposed project would have a significant environmental effect. The proposed project would have a significant effect on hydrology and water quality if it would

- violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality;
- cause substantial flooding, erosion, or siltation; or
- substantially interfere with groundwater recharge.

## Methods and Assumptions for the Impact Analysis

This section is based on information provided in the following references:

- the preliminary plans for the proposed project;
- the Dry Creek Watershed Flood Control Plan (Plan); and
- the Hydraulic Engineering Center's (HEC's) River Analysis System (RAS) program files, developed by the Corps.

Additional information can be found in Appendix K.

It is assumed that the proposed project would not result in an increase in the flows calculated for the Plan.

## Impacts

### Construction-Related Impacts

#### Impact 5.1 Temporary Degradation of Surface Water Quality During Construction

The severity of construction-related water quality impacts is dependent on soil erosion potential; construction practices; the frequency, magnitude, and duration of precipitation events; and proximity to stream channels.

Project construction activities would expose disturbed and loosened soils to erosion from rainfall, runoff, and wind. Most natural erosion occurs at slow rates; however, the rate increases when the land is cleared or altered and left disturbed. Construction activities remove the protective cover of vegetation and natural soil resistance to rainfall impact erosion. Sheet erosion occurs when slope length and runoff velocity increase on disturbed areas. As runoff accumulates, it concentrates into rivulets that cut grooves (rills) into the soil surface. If the flow is sufficient, these rills may develop into gullies. Excessive stream and channel erosion may occur if runoff volumes and rates increase as a result of construction activities.

*Sedimentation* is the settling out of soil particles transported by water. Sedimentation occurs when the velocity of water in which soils particles are suspended is slowed sufficiently to allow the particles to settle out. Larger particles, such as gravel and sand, settle out more rapidly than fine particles, such as silt and clay. Sediment is considered a pollutant by the RWQCB, and sediment also transports adsorbed pollutants, such as nutrients, hydrocarbons, and metals.

Excessive sediment in waterways can cause increased turbidity and reduced light penetration, resulting in reduction of prey capture for sight-feeding predators, reduction in light available for photosynthesis, clogging of gills and filter mechanisms of fish and aquatic invertebrates, reduction of spawning and juvenile fish survival, smothering of bottom-dwelling organisms, changes in substrate composition, and reduction of aesthetic values. Also, concentrations of nutrients and other pollutants (such as metals and certain pesticides) associated with sediment particles increase. Although these effects usually are short-term and greatly diminish after revegetation, sediment and sediment-borne pollutants may be remobilized under suitable hydrologic and hydraulic conditions.

Although sediment from erosion is the pollutant most frequently associated with construction activity, other pollutants of concern include toxic chemicals and miscellaneous wastes. A typical construction site uses many chemicals or compounds that can be hazardous to aquatic life, should it enter a waterway (i.e., Linda Creek). Gasoline, oils, grease, solvents, lubricants, and other petroleum-based products are used commonly in construction activities. Many petroleum products contain a variety of toxic compounds and impurities and tend to form oily films on the water surface, altering oxygen diffusion rates. Concrete, soap, trash, and sanitary wastes are other common sources of potentially harmful materials.

The proximity of construction activities to watercourses increases the potential for spilled toxic substance to enter the water. Water used to wash equipment and tools, and other waste dumped or spilled on the construction site, can easily lead to seepage of pollutants into watercourses. Accidental spillage of construction chemicals into a watercourse also could occur.

The impact of toxic construction-related materials on water quality is largely determined by the duration and time of activities. Construction conducted in the dry season generally causes less soil and channel erosion and runoff of toxic chemicals into streams. However, low summer flows in streams are less able to dilute pollutants.

Potential construction-related water quality effects on Linda Creek and the Baldwin Reservoir canal are common to all build alternatives and are considered significant. Implementation of Mitigation Measure P5.1 would reduce this impact to a less-than-significant level.

## Operation-Related Impacts

### Impact 5.2 Change in Soil Absorption Rates, Drainage Patterns, and the Rate and Amount of Runoff

The proposed project would cover additional natural ground surface, resulting in decreased permeable area. This decrease would contribute to decreased absorption rates and increased volumes and rates of runoff. As described under "Affected Environment," the culvert at Linda Creek would not convey the 25-year and 100-year floodflow under full buildout conditions. Placer County General Plan Policy 4.F.1 states that the County shall require that arterial roadways and expressways be protected, at a minimum, from a 100-year storm event.

In summary, increased runoff resulting from the project could exacerbate the flooding problems in the area. This impact is common to all build alternatives and is considered significant. Implementation of Mitigation Measure P5.2 would reduce this impact to a less-than-significant level.

### Impact 5.3 Postconstruction Degradation of Surface Water Quality

The proposed project would accommodate more vehicle traffic, resulting in increased accumulation of pollutants, such as hydrocarbons and trace metals, on impervious surfaces (roads and shoulder areas). Delivered to waterways by local runoff, these pollutants would have the potential to affect water quality and aquatic life.

This impact is common to all build alternatives and is considered significant. Implementation of Mitigation Measure P5.3 would reduce this impact to a less-than-significant level.

# Mitigation Measures

This section details the mitigation measures identified for the project alternatives. Mitigation measures are identified as either of the following.

- *Proposed mitigation measures* are measures that the Placer County DPW, as project proponent, is either proposing as part of the project design or has agreed to implement.

- *Recommended mitigation measures* are measures that are identified in this environmental document but that the Placer County DPW has not chosen to implement, and which may be required by the Placer County Board of Supervisors if the project is approved.

## Proposed Mitigation Measures

### Mitigation Measure P5.1: Obtain a Section 402 NPDES Permit and Prepare an Erosion and Sediment Control Plan

As required by the NPDES General Permit for Discharges of Storm Water Associated with Construction Activities, Placer County DPW shall prepare an erosion and sediment control plan. The plan shall be prepared and approved before construction activities begin. The following measures shall be addressed in the plan.

1. All graded areas shall be covered with protective materials, such as mulch, or reseeded with adaptive plant species. The plan shall include details regarding seed material, fertilizer, and mulching.
2. Protocols for the handling of construction and maintenance materials, such as sanitary wastes and petroleum products, shall be developed to minimize the chance of spill and to provide prompt corrective action should spill occur.
3. All graded areas and soil piles shall be mounded to minimize erosion potential.
4. Drainage outfalls shall be designed and positioned to avoid erosion. Energy dissipators shall be installed where necessary.
5. Erosion control measures shall include best management practices (BMPs) to minimize water quality impacts; BMPs include filter berm, sandbag, or straw-bale barriers; siltation retention fences; vegetated buffer strips; vegetated swales; and spill containment provisions.
6. Temporary sediment catchment basins shall be constructed where necessary to prevent sediment from being transported to permanent detention basins and drainages. The locations and size of the temporary basins shall be shown in the erosion and sediment control plan.
7. Grading shall not be permitted after October 15 or before May 1. Grading may be permitted outside of these dates if the Director of DPW determines that such work can be completed before the onset of weather conditions that would prevent the work from being adequately winterized or completed.
8. Revegetation shall begin when the graded area has attained finished grade, but not later than October 1 (to ensure germination by October 30).

### Mitigation Measure P5.2: Prepare a Drainage Report

Placer County DPW shall prepare a drainage report in conformance with the requirements of Section 5 of the Land Development Manual (LDM) and the Placer County Storm Water Management Manual that are in effect at the time of submittal. The drainage report shall be submitted to the DPW for review and approval. The report shall be prepared by a Registered Civil Engineer and shall, at a minimum, include a written text addressing existing conditions, the effects of the improvements, all appropriate calculations, a watershed map, increases in downstream flows, and proposed onsite and offsite improvements and drainage easements to accommodate flows from the project. The report shall address storm drainage during construction and thereafter, and shall propose BMPs to reduce erosion and water quality degradation.

The existing culvert at Linda Creek shall be evaluated in the drainage report for condition and capacity and shall be upgraded, replaced, or mitigated as specified by DPW. All stormwater drainage facilities shall be designed in accordance with the requirements of the County Storm Water Management Manual that are in effect at the time of submittal, and to the satisfaction of DPW. These facilities shall be constructed with project improvements and easements provided, as required by DPW. Maintenance of these facilities shall be the responsibility of Placer County.

PCFCWCD recommends using a minimum design peak flow rate of 510 cfs for the sizing of any proposed culverts at Auburn-Folsom Road. It is PCFCWCD's opinion that increasing the size of the existing culvert to prevent overtopping of the roadway during 100-yeaer storm events would be beneficial to the area.

The 1992 Dry Creek Watershed Flood Control Plan based its bridge/culvert replacement recommendations on passing the 100-year peak flow with no freeboard. Based on this, PCFCWCD would accept a culvert design that passes the future 100-year peak flow rate of 510 cfs with minimal freeboard below the proposed roadway.

The drainage report will analyze the pre- and postdevelopment water surface elevations for 2-, 10-, 25-, and 100-year storm events for future culvert proposals.

### Mitigation Measure P5.3: Prepare a Postconstruction Storm Water Pollution Prevention Plan

Placer County DPW shall prepare a Storm Water Pollution Prevention Plan (SWPPP). The plan must include BMPs. Proposed BMPs are listed below.

1. Vegetate swales to minimize and decelerate flows and collect pollutants and suspended sediments.
2. Establish and maintain vegetation in swales and drainageways to achieve an optimal balance of conveyance and water quality protection characteristics.
3. Install velocity dissipators, rip-rap, and/or other appropriate devices to slow runoff, promote deposition of waterborne particles, and reduce the erosive potential of storm flows

## Recommended Mitigation Measures

There are no recommended hydrology mitigation measures.

**Table 5-2.** Hydrology and Water Quality Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **HYDROLOGY AND WATER QUALITY** | | | | |
| Impact 5.1 Temporary Degradation of Surface Water Quality During Construction | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P5.1: Obtain a Section 402 NPDES Permit and Prepare an Erosion and Sediment Control Plan | P5.1: Obtain a Section 402 NPDES Permit and Prepare an Erosion and Sediment Control Plan | P5.1: Obtain a Section 402 NPDES Permit and Prepare an Erosion and Sediment Control Plan | P5.1: Obtain a Section 402 NPDES Permit and Prepare an Erosion and Sediment Control Plan |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 5.2 Change in Soil Absorption Rates, Drainage Patterns, and the Rate and Amount of Runoff | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P5.2: Prepare a Drainage Report | P5.2: Prepare a Drainage Report | P5.2: Prepare a Drainage Report | P5.2: Prepare a Drainage Report |
| Significance After Mitigation | LS | LS | LS | LS |

**Table 5-2.** Hydrology and Water Quality Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Impact 5.3 Postconstruction Degradation of Surface Water Quality | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P5.3: Prepare a Postconstruction Storm Water Pollution Prevention Plan | P5.3: Prepare a Postconstruction Storm Water Pollution Prevention Plan | P5.3: Prepare a Postconstruction Storm Water Pollution Prevention Plan | P5.3: Prepare a Postconstruction Storm Water Pollution Prevention Plan |
| Significance After Mitigation | LS | LS | LS | LS |

Key:

SU = Significant and unavoidable.

S = Significant.

PS = Potentially significant.

LS = Less than significant.

NI = No impact.

NA = Not applicable.

Chapter 6
# Noise

This chapter describes the noise environment of the project area, identifies policies and regulations relevant to noise, and addresses the noise impacts associated with construction and operation of the proposed project. Background information on environmental acoustics, including definitions of terms commonly used in noise analysis, are provided in Appendix E.

## Terminology

Noise terms used in this chapter are briefly defined below.

- *Sound* is a vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- *Noise* is sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- The *decibel (dB)* is a unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-Pascals.
- The *A-weighted decibel (dBA)* represents an overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- *Maximum sound level* ($L_{max}$) is the maximum sound level measured during the measurement period.
- *Minimum sound level* ($L_{min}$) is the minimum sound level measured during the measurement period.
- *Equivalent sound level* ($L_{eq}$) is the equivalent steady-state sound level that, in a stated period of time, would contain the same acoustical energy.
- *Percentile-exceeded sound level* ($L_{xx}$) is the sound level exceeded "x" percent of a specific time period. For example, $L_{10}$ is the sound level exceeded 10% of the time.
- *Day-night level* ($L_{dn}$) is the energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m.

- *Community noise equivalent level (CNEL)* is the energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the A-weighted sound levels occurring between 7:00 p.m. and 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring between 10:00 p.m. and 7:00 a.m.

$L_{dn}$ and CNEL values rarely differ by more than 1 dB. As a matter of practice, $L_{dn}$ and CNEL values are considered to be equivalent and are treated as such in this assessment. In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

# Affected Environment

## Environmental Setting

### Noise-Sensitive Land Uses

Noise-sensitive land uses generally are defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically include residences, hospitals, schools, guest lodging, libraries, and certain types of recreational areas. There are numerous noise-sensitive land uses along Auburn-Folsom Road. These primarily consist of residences and Beals Point Campground.

### Existing Noise Environment

The main influence on the noise environment in the project area is roadway traffic. The predominant noise source is traffic on Auburn-Folsom Road. The noise environment in the project area has been characterized through both noise monitoring and noise modeling.

#### Short-Term Monitoring

Short-term noise monitoring was conducted in the project area on August 13, 14, and 22, 2002, using Larson Davis SLM Model 812 sound level meters. Measurements were taken at 21 primary positions in the project area. Noise monitoring positions are identified in Table 6-1 and Figure 6-1. Table 6-2 summarizes the results of the short-term noise monitoring.

At each position, sound level data was typically collected over a 10-minute period. The calibration of each sound level meter was checked before and after each measurement using a Larson-Davis Model CA-250 calibrator. Weather conditions were hot and calm.

**Table 6-1.** Noise Monitoring Position Locations

| Monitoring Position | Monitoring Location |
|---|---|
| 1 | Gate entrance to Fallbrook Court |
| 2 | 8880 Whispering Pines Mobile Home Park |
| 3 | 9045 Auburn-Folsom Road |
| 4 | 6895 Country Court |
| 5 | 6920 Bell Road |
| 6 | 9145 Auburn-Folsom Road |
| 7 | 9306 Muir |
| 8 | 9400 Auburn-Folsom Road |
| 9 | 6715 Crown Point Vista |
| 10 | 6650 Crown Point Vista |
| 11 | 9700 Auburn-Folsom Road |
| 12 | Beals Point Camp Site #60 |
| 13 | Beals Point Camp Site #10 |
| 14 | 9935 Wiley Court |
| 15 | 9965 Wiley Court |
| 16 | 10015 Wiley Court |
| 17 | 10075 Wiley Court |
| 18 | 10085 Wiley Court |
| 19 | 7240 Sierra Drive |
| 20 | 7235 Sierra Drive |
| 21 | 9217 Purdy Lane |

**Table 6-2.** Summary of Short-Term Noise Monitoring



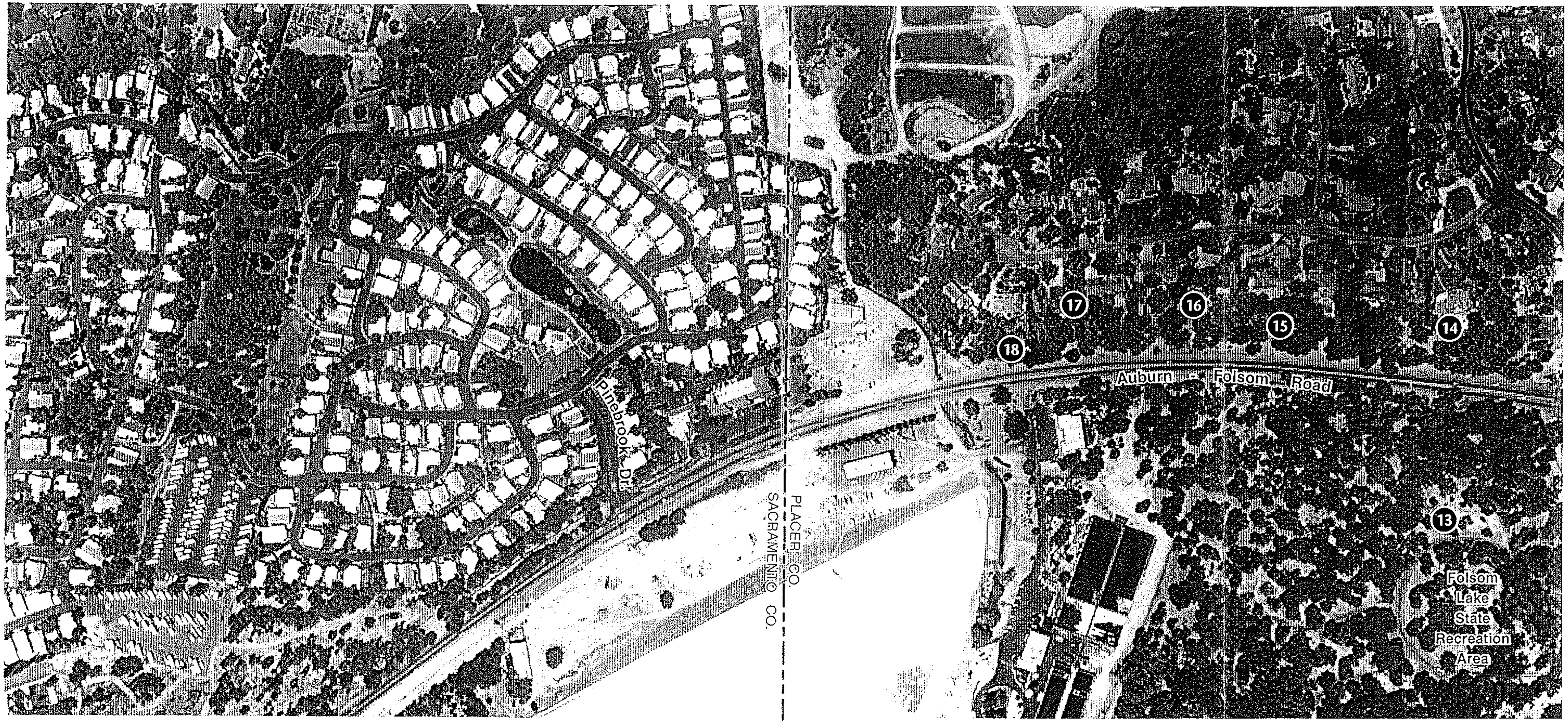
| Position | Date | Start Time | Duration (minutes) | Sound Level (dBA-$L_{eq}$) | $L_{max}$ (dBA) | $L_{10}$ (dBA) | $L_{90}$ (dBA)[1] | Sources |
|---|---|---|---|---|---|---|---|---|
| 1 | 8/13/2002 | 10:19 a.m. | 9:08 | 59.4 | 68.3 | 62.3 | 53.3 | Local traffic |
| 1 | 8/13/2002 | 10:32 a.m. | 9:53 | 59.7 | 72.6 | 62.7 | 50.9 | Local traffic |
| 2 | 8/13/2002 | 10:19 a.m. | 9:33 | 66.9 | 75.1 | 70.3 | 53.6 | Local traffic |
| 2 | 8/13/2002 | 10:32 a.m. | 9:44 | 69.3 | 87.9 | 71.0 | 58.5 | Local traffic |
| 3 | 8/13/2002 | 11:30 a.m. | 10:00 | 64.6 | 74.1 | 68.1 | 52.9 | Local traffic |
| 4 | 8/13/2002 | 11:30 a.m. | 9:46 | 64.1 | 76.7 | 66.9 | 52.1 | Local traffic |
| 5 | 8/13/2002 | 12:15 p.m. | 7:05 | 56.9 | 67.8 | 60.0 | 49.9 | Local traffic |
| 6 | 8/13/2002 | 12:15 p.m. | 8:43 | 58.8 | 68.7 | 61.4 | 51.5 | Local traffic |
| 7 | 8/13/2002 | 3:00 p.m. | 10:00 | 58.9 | 69.8 | 61.7 | 51.7 | Local traffic |
| 8 | 8/13/2002 | 3:00 p.m. | 10:00 | 52.4 | 63.7 | 55.0 | 45.9 | Local traffic |
| 9 | 8/13/2002 | 3:42p.m. | 9:54 | 66.4 | 73.9 | 69.0 | 59.9 | Local traffic |
| 10 | 8/13/2002 | 3:42p.m. | 10:00 | 59.5 | 68.7 | 62.0 | 54.7 | Local traffic |
| 11 | 8/14/2002 | 11:42 a.m. | 8:46 | 59.2 | 67.9 | 62.1 | 50.3 | Local traffic |
| 11 | 8/14/2002 | 11:55 a.m. | 10:00 | 58.8 | 65.7 | 58.6 | 59.6 | Local traffic |
| 12 | 8/14/2002 | 9:40 a.m. | 7:48 | 53.8 | 63.3 | 56.8 | 43.1 | Local traffic |
| 12 | 8/14/2002 | 9:53a.m. | 9:04 | 54.0 | 62.6 | 56.5 | 47.4 | Local traffic |
| 13 | 8/14/2002 | 9:40 a.m. | 7:38 | 54.5 | 62.8 | 57.7 | 45.1 | Local traffic |
| 13 | 8/14/2002 | 9:53a.m. | 7:57 | 55.3 | 64.8 | 58.1 | 45.6 | Local traffic |
| 14 | 8/14/2002 | 11:42 a.m. | 10:00 | 55.8 | 64.8 | 58.3 | 49.3 | Local traffic |
| 14 | 8/14/2002 | 11:55 a.m. | 10:00 | 55.0 | 62.5 | 58.0 | 46.3 | Local traffic |
| 15 | 8/14/2002 | 10:39 a.m. | 9:51 | 57.9 | 65.8 | 60.8 | 50.1 | Local traffic |
| 15 | 8/14/2002 | 10:52 a.m. | 10:00 | 57.2 | 67.5 | 60.0 | 45.4 | Local traffic |
| 16 | 8/14/2002 | 10:39 a.m. | 10:00 | 53.7 | 59.8 | 56.1 | 48.7 | Local traffic |
| 16 | 8/14/2002 | 10:52 a.m. | 10:00 | 53.1 | 59.4 | 55.2 | 48.6 | Local traffic |
| 17 | 8/14/2002 | 12:33 p.m. | 10:00 | 59.3 | 66.8 | 62.6 | 49.7 | Local traffic |
| 17 | 8/14/2002 | 12:46 9.m. | 10:00 | 59.3 | 65.9 | 62.1 | 51.1 | Local traffic |
| 18 | 8/14/2002 | 12:33 p.m. | 10:00 | 63.4 | 73.1 | 66.6 | 51.6 | Local traffic |
| 18 | 8/14/2002 | 12:46 9.m. | 9:47 | 63.3 | 71.4 | 66.6 | 52.0 | Local traffic |
| 19 | 8/14/2002 | 2:21 p.m. | 10:00 | 41.3 | 66.7 | 40.8 | 39.0 | Local traffic |

**Table 6-2.** Continued



| Position | Date | Start Time | Duration (minutes) | Sound Level (dBA-$L_{eq}$) | $L_{max}$ (dBA) | $L_{10}$ (dBA) | $L_{90}$ (dBA)[1] | Sources |
|---|---|---|---|---|---|---|---|---|
| 19 | 8/22/2002 | 6:53 a.m. | 6:00 | 44.7 | 49.8 | 46.1 | 43.4 | Local traffic |
| 20 | 8/14/2002 | 2:04 p.m. | 8:48 | 42.5 | 67.2 | 42.3 | 37.2 | Local traffic |
| 21 | 8/14/2002 | 2:03 p.m. | 8:53 | 45.8 | 58.0 | 47.8 | 42.0 | Local traffic |
| 21 | 8/14/2002 | 2:21 p.m. | 10:00 | 43.7 | 49.3 | 45.6 | 41.3 | Local traffic |

[1] $L_{90}$ is considered to represent the residual or background sound level.




Legend

A Noise Modeled Location

18 Noise Monitored and Modeled Location

N

Note: Noise Monitoring and Modeling Locations 19, 20, and 21 unavailable.

02102.02 034 (10/02)

Jones & Stokes

**Figure 6-1a**
**Noise Monitoring and Modeling Locations**


Legend

A Noise Modeled Location

18 Noise Monitored and Modeled Location

N

Note: Noise Monitoring and Modeling Locations 19, 20, and 21 unavailable.

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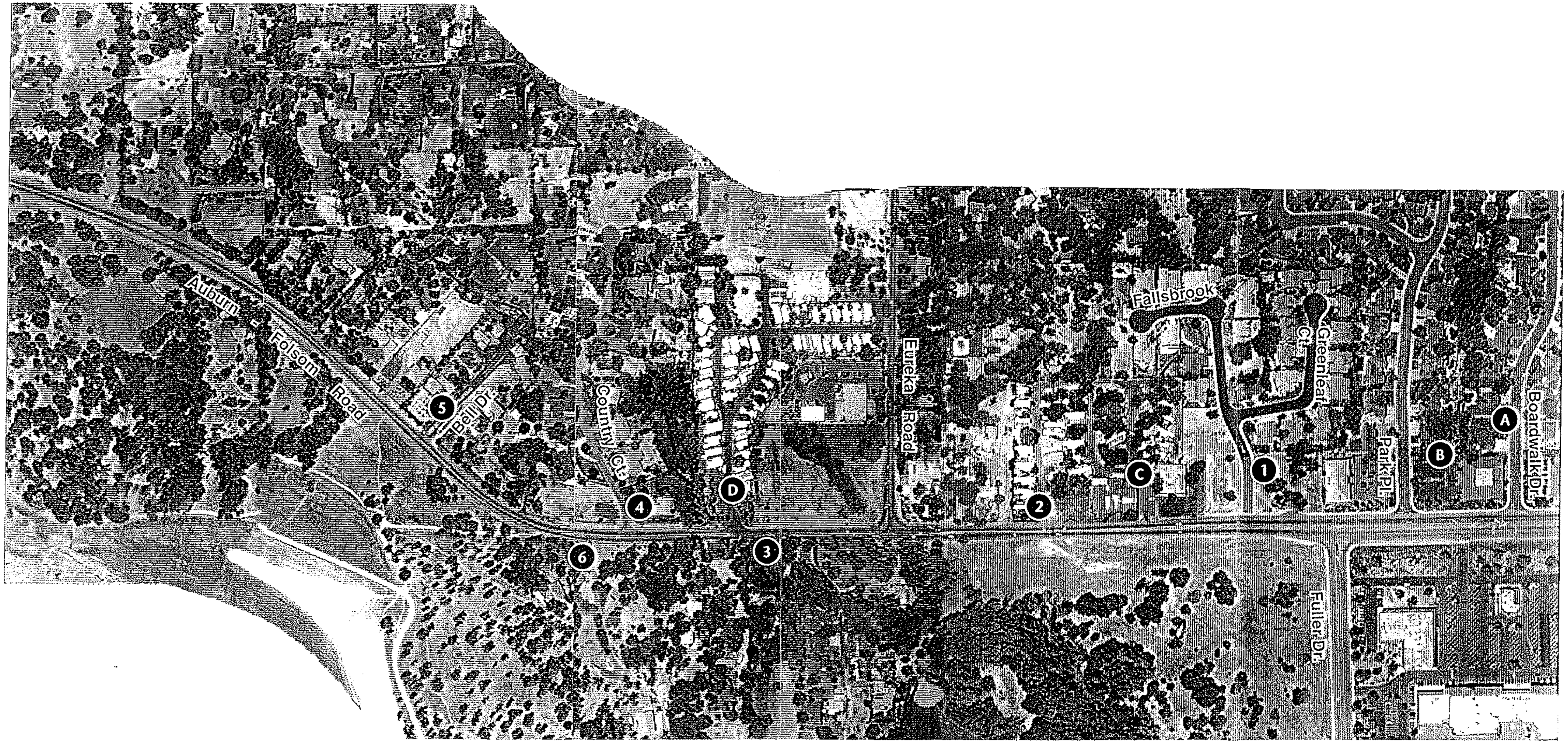
Jones & Stokes

Figure 6-1b
Noise Monitoring and Modeling Locations




Legend

A Noise Modeled Location

18 Noise Monitored and Modeled Location

N

Note: Noise Monitoring and Modeling Locations 19, 20, and 21 unavailable.

02102.02 034 (10/02)

Jones & Stokes

Figure 6-1c
Noise Monitoring and Modeling Locations

When a noise-generating event not related to traffic, such as an aircraft overflight, occurred, the sound meter was paused until the event passed. When the meter was paused for this reason, the measurement duration was less than 10 minutes.

Traffic was counted and categorized during the measurements. This traffic data, along with the measured sound level data, was used to calibrate and check the accuracy of the noise prediction model developed for the project. The noise model then used the traffic input data from peak periods to assess worst-case noise levels at all locations.

At Position 19, the homeowner requested that an additional measurement be taken during the a.m. or p.m. commute hour. The additional measurement was taken on August 22, 2002, beginning at 6:53 a.m. The measured sound level of 44.7 dB-$L_{eq}$ was about 3 dB higher than the sound level measured at 2:21 p.m. on August 14, 2002. This is consistent with the long-term data discussed below. Although traffic on Auburn-Folsom Road is the predominant source of background noise at this location, the measured sound level of 45 dBA during the peak morning commute hour indicates that traffic noise at this location is far below the County's noise compatibility standards for residential uses.

## Long-Term Monitoring

Long-term noise monitoring was conducted in the project area over 5 weekdays, beginning on Monday, August 12, using three Larson-Davis Model 700 Type 2 sound level meters. Meters were placed at the south end of the project area (Long-Term Position 1), the middle of the project area (Long-Term Position 2), and at the north end of the project area (Long-Term Position 3). The purpose of the measurements recorded by these meters was to quantify variations in sound level occurring throughout the day, rather than to identify absolute sound levels at a specific receiver of concern. Weather conditions were generally warm and calm for the duration of the measurements.

Tables 6-3 through 6-5 summarize the results of the long-term monitoring. The 24-hour pattern of traffic noise levels recorded is typical of a roadway with a strong morning traffic peak and relatively constant traffic volumes throughout the day. As expected, traffic noise levels drop off during the evening and nighttime hours. The differences between the sound levels measured during each hour and the maximum noise-hour sound levels are also shown in the tables. Where there is a full day of data, the daily $L_{dn}$ value has also been calculated. The difference between the calculated $L_{dn}$ value and the worst-hour noise level is also provided. As can been in Tables 6-3 through 6-5, this difference is 1 to 2 dB, based on the average data for the entire week.

# Regulatory Setting

## Federal

Although Reclamation has a NEPA guidance document, it does not contain any requirements specific to noise, and Reclamation has not adopted any regulations relating to noise.

## State

California requires each local government entity to implement a noise element as part of its general plan. California Administrative Code, Title 4, has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. The state land use compatibility guidelines are listed in Table 6-6.

## Local

Placer County has established policies and regulations concerning the generation and control of noise that could adversely affect its citizens and noise-sensitive land uses. Below is a brief discussion of the general plan policies and noise guidelines implemented by the County to protect its citizens from noise.

### Placer County General Plan

The Placer County General Plan, required by state law, serves as the County's blueprint for land use and development. The County initiated a comprehensive update of its general plan in November 1990 and adopted the general plan update in 1994.

The Noise Element of the Placer County General Plan contains planning guidelines relating to noise. The noise element identifies goals and policies to support achievement of those goals. Policy 9.A.9 relates specifically to this project:

**Policy 9.A.9.** Noise created by new transportation sources, including roadway improvement projects shall be mitigated so as not to exceed the levels specified in Table 9-3 (of the Noise Element) at outdoor activity areas or interior spaces of existing noise-sensitive uses.

Table 6-7 summarizes the maximum allowable noise levels for transportation noise sources.

**Table 6-3.** Summary of Long-Term Noise Monitoring at Long-Term Position 1

| Time | 1-Hour dB-$L_{eq}$ | | | | | | Worst Noise Hour dB-$L_{eq}$ *Minus* Hourly dB-$L_{eq}$ |
|---|---|---|---|---|---|---|---|
| | Monday (8/12/2002) | Tuesday (8/13/2002) | Wednesday (8/14/2002) | Thursday (8/15/2002) | Friday (8/16/2002) | Average | |
| 12 a.m. | NA[1] | 58.5 | 60.0 | 59.0 | 60.0 | 59 | 11 |
| 1 a.m. | NA[1] | 55.5 | 56.5 | 56.5 | 57.0 | 56 | 14 |
| 2 a.m. | NA[1] | 55.0 | 55.0 | 55.0 | 56.0 | 55 | 15 |
| 3 a.m. | NA[1] | 55.0 | 56.5 | 57.0 | 54.0 | 56 | 14 |
| 4 a.m. | NA[1] | 60.0 | 60.5 | 60.5 | 60.0 | 60 | 10 |
| 5 a.m. | NA[1] | 66.5 | 67.0 | 66.5 | 67.0 | 67 | 3 |
| 6 a.m. | NA[1] | 69.5 | 70.0 | 70.0 | 70.0 | 70 | 0 |
| 7 a.m. | NA[1] | 69.0 | 70.0 | 69.5 | 70.0 | 70 | 0 |
| 8 a.m. | NA[1] | 69.0 | 68.5 | 69.0 | 69.0 | 69 | 1 |
| 9 a.m. | NA[1] | 68.5 | 68.0 | 68.0 | 68.0 | 68 | 2 |
| 10 a.m. | NA[1] | 67.5 | 67.5 | 67.5 | 67.5 | 68 | 2 |
| 11 a.m. | NA[1] | 67.5 | 67.5 | 67.5 | 67.5 | 68 | 2 |
| 12 p.m. | 67.5 | 67.0 | 67.0 | 67.0 | 68.0 | 67 | 3 |
| 1 p.m. | 67.0 | 66.5 | 66.5 | 67.0 | 67.5 | 67 | 3 |
| 2 p.m. | 66.5 | 66.5 | 66.5 | 67.0 | 67.0 | 67 | 3 |
| 3 p.m. | 66.5 | 66.5 | 67.0 | 67.0 | 67.0 | 67 | 3 |
| 4 p.m. | 66.5 | 66.5 | 66.5 | 67.0 | 66.0 | 67 | 3 |
| 5 p.m. | 67.0 | 66.0 | 66.5 | 66.5 | 66.0 | 66 | 4 |
| 6 p.m. | 67.0 | 67.5 | 66.0 | 68.0 | 67.5 | 67 | 3 |
| 7 p.m. | 66.0 | 67.0 | 67.5 | 67.5 | 67.5 | 67 | 3 |
| 8 p.m. | 66.0 | 66.0 | 66.5 | 66.5 | 66.5 | 66 | 4 |
| 9 p.m. | 65.0 | 65.5 | 66.0 | 66.5 | 66.0 | 66 | 4 |
| 10 p.m. | 63.0 | 63.5 | 64.0 | 64.5 | 65.5 | 64 | 6 |
| 11 p.m. | 61.5 | 61.5 | 62.0 | 62.0 | 64.0 | 62 | 8 |
| $L_{dn}$ | NA[1] | 70.6 | 71.0 | 71.0 | 71.3 | 71.0 | |

[1] NA = Data not collected.

**Table 6-4.** Summary of Long-Term Noise Monitoring at Long-Term Position 2

| | 1-Hour dB-$L_{eq}$ | | | | | | Worst Noise Hour |
|---|---|---|---|---|---|---|---|
| Time | Monday (8/12/2002) | Tuesday (8/13/2002) | Wednesday (8/14/2002) | Thursday (8/15/2002) | Friday (8/16/2002) | Average | dB-$L_{eq}$ *Minus* Hourly dB-$L_{eq}$ |
| 12 a.m. | NA[1] | 58.5 | 60.0 | 58.5 | 60.5 | 59 | 11 |
| 1 a.m. | NA[1] | 57.0 | 57.0 | 56.5 | 58.0 | 57 | 13 |
| 2 a.m. | NA[1] | 56.5 | 56.0 | 56.0 | 56.0 | 56 | 14 |
| 3 a.m. | NA[1] | 56.5 | 56.5 | 57.0 | 55.5 | 56 | 14 |
| 4 a.m. | NA[1] | 59.5 | 59.5 | 59.5 | 60.0 | 60 | 10 |
| 5 a.m. | NA[1] | 66.0 | 66.0 | 66.0 | 66.5 | 66 | 4 |
| 6 a.m. | NA[1] | 70.0 | 70.0 | 69.5 | 69.5 | 70 | 0 |
| 7 a.m. | NA[1] | 70.0 | 70.5 | 70.0 | 70.0 | 70 | 0 |
| 8 a.m. | NA[1] | 69.0 | 69.0 | 69.0 | 69.5 | 69 | 1 |
| 9 a.m. | NA[1] | 67.5 | 68.0 | 68.0 | 68.0 | 68 | 2 |
| 10 a.m. | NA[1] | 67.5 | 67.5 | 67.5 | 67.5 | 68 | 2 |
| 11 a.m. | NA[1] | 67.0 | 67.5 | 67.5 | 68.0 | 68 | 2 |
| 12 p.m. | 67.5 | 67.0 | 67.5 | 67.5 | 68.5 | 68 | 2 |
| 1 p.m. | 67.0 | 67.0 | 67.0 | 67.5 | 68.0 | 67 | 3 |
| 2 p.m. | 67.5 | 67.5 | 67.0 | 68.0 | 68.5 | 68 | 2 |
| 3 p.m. | 68.5 | 68.0 | 68.5 | 68.5 | 68.5 | 68 | 2 |
| 4 p.m. | 68.5 | 68.5 | 69.0 | 69.0 | 69.0 | 69 | 1 |
| 5 p.m. | 68.5 | 68.5 | 68.5 | 69.0 | 68.5 | 69 | 1 |
| 6 p.m. | 68.0 | 68.0 | 69.0 | 69.0 | 68.5 | 69 | 1 |
| 7 p.m. | 67.0 | 67.5 | 67.5 | 67.5 | 67.5 | 67 | 3 |
| 8 p.m. | 67.0 | 67.0 | 66.0 | 67.0 | 66.0 | 67 | 3 |
| 9 p.m. | 65.5 | 66.5 | 65.0 | 66.0 | 65.5 | 66 | 4 |
| 10 p.m. | 63.0 | 63.0 | 63.5 | 64.0 | 65.0 | 64 | 6 |
| 11 p.m. | 61.5 | 61.0 | 61.0 | 63.0 | 63.0 | 62 | 8 |
| $L_{dn}$ | NA[1] | 70.9 | 71.0 | 71.0 | 71.3 | 71.1 | |

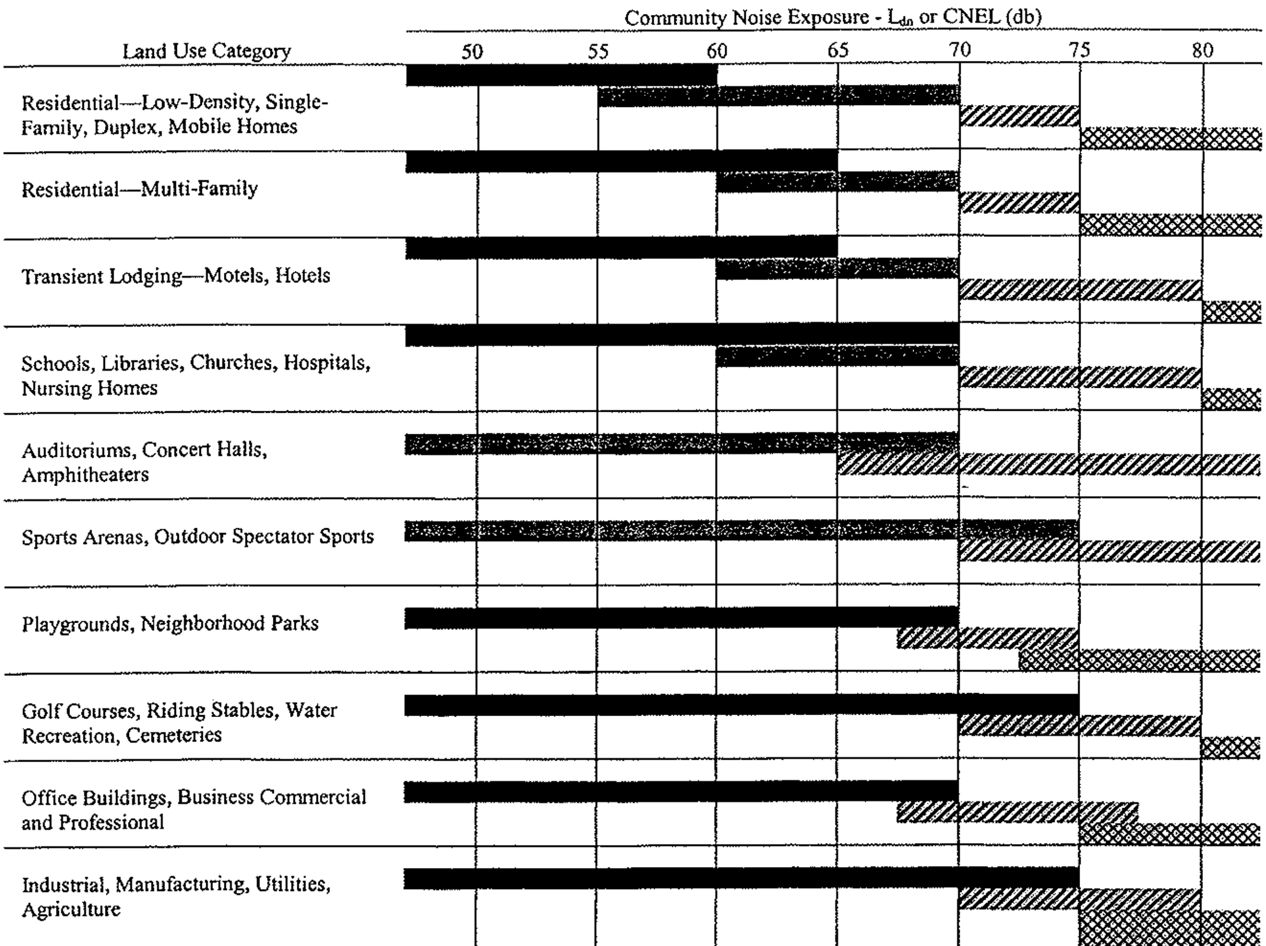
[1] NA = Data not collected.

**Table 6-5.** Summary of Long-Term Noise Monitoring at Long-Term Position 3

| Time | 1-Hour dB-$L_{eq}$ | | | | | | Worst Noise Hour dB-$L_{eq}$ *Minus* Hourly dB-$L_{eq}$ |
|---|---|---|---|---|---|---|---|
| | Monday (8/12/2002) | Tuesday (8/13/2002) | Wednesday (8/14/2002) | Thursday (8/15/2002) | Friday (8/16/2002) | Average | |
| 12 a.m. | NA[1] | 59.0 | 59.5 | 59.0 | 59.0 | 59 | 11 |
| 1 a.m. | NA[1] | 55.5 | 56.5 | 56.0 | 56.5 | 56 | 14 |
| 2 a.m. | NA[1] | 55.5 | 56.5 | 56.5 | 55.0 | 56 | 14 |
| 3 a.m. | NA[1] | 55.0 | 57.0 | 56.0 | 56.0 | 56 | 14 |
| 4 a.m. | NA[1] | 60.5 | 61.5 | 61.5 | 60.5 | 61 | 9 |
| 5 a.m. | NA[1] | 67.5 | 67.5 | 67.5 | 68.0 | 68 | 2 |
| 6 a.m. | NA[1] | 69.5 | 69.5 | 69.5 | 70.0 | 70 | 0 |
| 7 a.m. | NA[1] | 69.0 | 69.5 | 69.5 | 69.5 | 69 | 1 |
| 8 a.m. | NA[1] | 69.0 | 69.0 | 68.5 | 69.0 | 69 | 1 |
| 9 a.m. | NA[1] | 68.5 | 68.5 | 68.0 | 68.5 | 68 | 2 |
| 10 a.m. | NA[1] | 67.5 | 68.0 | 68.0 | 68.0 | 68 | 2 |
| 11 a.m. | NA[1] | 68.0 | 67.5 | 68.0 | 68.5 | 68 | 2 |
| 12 p.m. | 68.0 | 67.5 | 68.0 | 67.5 | 68.5 | 68 | 2 |
| 1 p.m. | 67.5 | 67.5 | 67.5 | 68.0 | 68.0 | 68 | 2 |
| 2 p.m. | 67.5 | 67.5 | 68.0 | 68.5 | 68.5 | 68 | 2 |
| 3 p.m. | 67.5 | 68.0 | 68.5 | 69.0 | 68.0 | 68 | 2 |
| 4 p.m. | 69.0 | 68.5 | 68.0 | 68.0 | 68.0 | 68 | 2 |
| 5 p.m. | 68.0 | 67.5 | 68.0 | 67.5 | 67.0 | 68 | 2 |
| 6 p.m. | 67.5 | 67.5 | 68.5 | 68.0 | 68.0 | 68 | 2 |
| 7 p.m. | 66.5 | 67.0 | 67.5 | 67.5 | 68.0 | 67 | 3 |
| 8 p.m. | 67.5 | 66.0 | 66.5 | 67.0 | NA[1] | 67 | 3 |
| 9 p.m. | 65.5 | 65.5 | 66.5 | 66.5 | NA[1] | 66 | 4 |
| 10 p.m. | 63.5 | 63.5 | 64.5 | 64.0 | NA[1] | 64 | 6 |
| 11 p.m. | 61.5 | 62.0 | 61.0 | 62.5 | NA[1] | 62 | 8 |
| $L_{dn}$ | NA[1] | 71.0 | 71.2 | 71.2 | NA[1] | 71.4 | |

[1] NA = Data not collected.

**Table 6-6.** State Land Use Compatibility Standards for Community Noise Environment




**Normally Acceptable** Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

**Conditionally Acceptable** New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

**Normally Unacceptable** New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

**Clearly Unacceptable** New construction or development generally should not be undertaken.

Source: California Governor's Office of Planning and Research, November 1998.

**Table 6-7.** Placer County Noise Element: Maximum Allowable Noise Exposure for Transportation Noise Sources

| Land Use | Outdoor Activity Areas[1] | Interior Spaces | |
|---|---|---|---|
| | $L_{dn}$/CNEL, dB | $L_{dn}$/CNEL, dB | $L_{eq}$, dB[2] |
| Residential | 60[3] | 45 | – |
| Transient lodging | 60[3] | 45 | – |
| Hospitals, nursing homes | 60[3] | 45 | – |
| Theatres, auditoriums, music Halls | – | – | 35 |
| Churches, meeting halls | 60[3] | – | 40 |
| Office buildings | – | – | 45 |
| Schools, libraries, museums | – | – | 45 |
| Playgrounds, neighborhood parks | 70 | – | – |

Notes:

[1] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[2] As determined for a typical worst-case hour during periods of use.

[3] Where it is not possible to reduce noise in outdoor activity areas to 60 dB $L_{dn}$/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB $L_{dn}$/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Source: Placer County 1994.

The General Plan further states that noise created by new transportation noise sources, including roadway improvement projects shall be mitigated so as to not exceed the levels specified in Table 6-7 at outdoor activity areas or interior spaces of existing noise-sensitive land uses. Where noise-sensitive land uses are proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 6-7, the County requires that an acoustical analysis be conducted as part of the review process so that noise mitigation may be included in the project design. However, at the discretion of the County, the requirement for an acoustical analysis may be waived, provided that all of the following conditions are met:

1. The development is for less than five single-family dwellings or less than 930 square meters (10,000 square feet) of total gross floor area for office buildings, churches, or meeting halls.

2. The noise source in question consists of a single roadway or railroad for which up-to-date noise exposure information is available. An acoustical analysis will be required when the noise source in question is a stationary noise source or airport, or when the noise source consists of multiple transportation noise sources.
3. The existing or projected future noise exposure at the exterior of buildings which will contain noise-sensitive uses or within proposed outdoor activity areas (other than outdoor sports and recreation areas) does not exceed 65 dB $L_{dn}$ (or CNEL) prior to mitigation. For outdoor sports and recreation areas, the existing or projected future noise exposure may not exceed 75 dB $L_{dn}$ (or CNEL) prior to mitigation.
4. The topography in the project area is essentially flat; that is, noise source and receiving land use are at the same grade.
5. Effective noise mitigation, as determined by the County, is incorporated into the project design to reduce noise exposure to the levels specified in Table 6-7. Such measures may include the use of building setbacks, building orientation, noise barriers, and the standard noise mitigations contained in the *Placer County Acoustical Design Manual*. If closed windows are required for compliance with interior noise levels standards, air conditioning or a mechanical ventilation system will be required.

Also, the County shall implement one or more of the following mitigation measures where existing noise levels significantly affect existing noise-sensitive land uses, or where the cumulative increase in noise levels resulting from new development significantly affects noise-sensitive land uses.

1. Rerouting traffic onto streets that have available traffic capacity and that do not adjoin noise-sensitive land uses
2. Lowering speed limits, if feasible and practical
3. Implement programs to pay for noise mitigation, such as low cost loans to owners of noise-affected property or developer fees
4. Acoustical treatment of buildings
5. Construction of noise barriers

## Placer County

The County has noise standards in its general plan. The County implements these noise standards as conditions of approval. However, the County does not have a noise ordinance, nor does it have any explicit limits on noise for general activities. The County has established standards for hours in which construction activities may occur. The County's Land Development Department's Sample Conditions of Approval and County Minute Order 90-08 prohibit construction activities on Sundays and federal holidays, and allow construction to occur only from Monday through Friday between 6:00 a.m. and 8:00 p.m. and on Saturday between 8:00 a.m. and 6:00 p.m. These construction limitations are applicable only to construction activities for which a building permit or grading permit is required.

# Environmental Consequences

## Criteria for Determining Significance under CEQA and NEPA

Appendix G of the State CEQA Guidelines, Placer County's General Plan Noise Element, and guidance from County staff (Carlos pers. comm.) were used to determine whether the proposed project would result in significant noise impacts. Appendix G of the State CEQA Guidelines states that a proposed project may have a significant impact related to noise if it would

- expose people to, or generate, noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies;
- expose people to, or generate, excessive groundborne vibration or groundborne noise levels;
- result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- be located within an airport land use plan area, or, where such a plan has not been adopted, within 3.2 kilometers (2 miles) of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels; or
- be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels.

Based on County noise standards and County CEQA practice (Carlos pers. comm.), the proposed project is considered to result in a significant operational noise impact if

- the predicted future noise level with the project is 65 dB-$L_{dn}$ or higher and the increase in noise compared to future no-project conditions is 1.5 dB or more;
- the predicted future noise level with the project is between 60 and 65 dB-$L_{dn}$ and the increase in noise compared to future no-project conditions is 3 dB or more; or
- the predicted future noise level with the project is 60 dB-$L_{dn}$ or less and the increase in noise compared to future no-project conditions is 5 dB or more.

There are no commonly accepted thresholds for acceptable levels of noise from construction activities. The Federal Transit Administration (FTA) suggests the guidelines shown in Table 6-8 as reasonable criteria for the assessment of construction-related noise impacts.

**Table 6-8.** Federal Transit Administration Suggested Construction Noise Criteria

| | 1-Hour $L_{eq}$ (dBA) | |
|---|---|---|
| Land Use | Day | Night |
| Residential | 90 | 80 |
| Commercial | 100 | 100 |
| Industrial | 100 | 100 |

Source: Federal Transit Administration 1995.

For the purposes of this assessment, construction activities would be considered to result in a significant noise impact if construction noise levels are predicted to exceed the noise thresholds in Table 6-8.

The Reclamation does not have adopted noise standards. For the purposes of assessing the significance of noise impacts under NEPA, the County's thresholds defined above are used.

# Methods and Assumptions for the Impact Analysis

The assessment of construction-related noise impacts was conducted using methods developed by FTA (Federal Transit Administration 1995). Traffic-related impacts resulting from operation of the proposed project were modeled using FHWA's Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic data provided by the project traffic engineer, Fehr & Peers.

# Impacts

## Construction-Related Impacts

### Impact 6.1 Exposure of Noise-Sensitive Land Uses (Residences and Campgrounds) to Construction Noise

Potential noise impacts resulting from construction of proposed project were evaluated by estimating the amount of noise generated on the theoretical worst-case day of construction activity. A detailed inventory of construction equipment that will be used for the proposed project was not available; therefore, this noise analysis is based on equipment that is anticipated to be used.

Table 6-9 presents a list of noise generation levels for various types of equipment typically used for construction projects. The list, compiled by the Federal Transit Administration (1995), was used in this analysis to estimate construction noise. The magnitude of construction noise impacts was assumed to depend on the type of construction activity, the noise level generated by various pieces of construction equipment, the duration of the activity, and the distance between the activity and noise-sensitive receivers. Any shielding effects that might result from local barriers, including topography, were not specifically taken into account. This results in a conservative estimation of construction noise levels at locations where topography will block the line of sight to the construction activity.

**Table 6-9.** Construction Equipment Noise

| Equipment | Maximum Noise Level (dBA at 15 meters [50 feet]) |
|---|---|
| Backhoe | 80 |
| Bulldozer | 85 |
| Concrete mixer | 85 |
| Concrete pump | 82 |
| Concrete vibrator | 76 |
| Grader | 85 |
| Heavy truck | 88 |
| Paver | 89 |
| Pneumatic tool | 85 |
| Scraper | 89 |

Source: Federal Transit Administration 1995.

A reasonable worst-case assumption is that the three loudest pieces of equipment would operate simultaneously and continuously over at least a 1-hour period for a combined-source noise level. Based on the noise levels shown in Table 6-9, Table 6-10 presents the calculated sound level estimates for construction activities, as a function of distance. Simultaneous operation of a paver, scraper, and truck for a combined source level of 93 dBA at 15 meters (50 feet) is assumed. Point-source attenuation of 6 dB per doubling of distance, as well as molecular absorption of 0.7 dB per 305 meters (1,000 feet) and anomalous excess attenuation of 1 dB per 305 meters (1,000 feet), are assumed.

**Table 6-10.** Estimated Construction Noise in the Vicinity of an Active Construction Site

| Distance Attenuation | |
|---|---|
| Distance to Receiver (meters [feet]) | Sound Level at Receiver (dBA) |
| 15 (50) | 93 |
| 30 (100) | 87 |
| 61 (200) | 81 |
| 122 (400) | 74 |
| 183 (600) | 70 |
| 244 (800) | 68 |
| 305 (1,000) | 65 |
| 457 (1,500) | 61 |
| 610 (2,000) | 58 |
| 762 (2,500) | 55 |
| 914 (3,000) | 52 |
| 1,219 (4,000) | 48 |
| 1,609 (5,280) | 44 |
| 2,286 (7,500) | 37 |

Notes: The following assumptions were used:

Basic sound level drop-off rate: 6.0 dB per doubling of distance
Molecular absorption coefficient: 0.7 dB per 305 meters (1,000 feet)
Anomalous excess attenuation: 1.0 dB per 305 meters (1,000 feet)
Reference sound level: 93 dBA
Distance for reference sound level: 15 meters (50 feet)

This calculation does not include the effects, if any, of local shielding, which may reduce sound levels further.

Estimates are based on Jones & Stokes' calculations for a paver, scraper, and truck.

The results in Table 6-10 indicate that noise-sensitive land uses located within approximately 21 meters (70 feet) of an active construction site may be exposed to construction noise in excess of the daytime significance threshold of 90 dBA $L_{eq}$. Also, noise-sensitive land uses located within approximately 69 meters (225 feet) of an active construction site would be exposed to noise levels in excess of the nighttime significance threshold of 80 dBA $L_{eq}$.

Because noise-sensitive uses are located within these distances, this impact is considered significant, and is common to all build alternatives. Implementation of Mitigation Measures P6.1a through P6.1h would reduce this impact to a less-than-significant level.

### Impact 6.2 Exposure of Residences and Campgrounds to Airblast and Vibration from Blasting

Blasting may be required to prepare a portion of the project site for construction. The need for blasting would depend on site-specific conditions and engineering considerations that are not known at this time. Accordingly, no information on the location, type, or extent of blasting is known. Noise and vibration generated by blasting is a complex function of the charge size, charge depth, hole size, degree of confinement, initiation methods, spatial distribution of charges, and other factors. This information is not currently available. However, given the proximity of potential blasting areas to existing residences, there is potential for blasting to result in significant adverse effects related to noise and vibration.

This impact is common to all build alternatives and is considered significant. Implementation of Mitigation Measure P6.2 would reduce this impact to a less-than-significant level.

## Operation-Related Impacts

### Impact 6.3 Exposure of Noise-Sensitive Land Uses (Residences and Campgrounds) to Increased Traffic Noise Levels

Traffic noise levels for existing conditions and future conditions with and without the project have been modeled for receivers at Positions 1 through 18. Noise at Positions 19 through 21 were not specifically modeled because existing noise measurements indicate that traffic noise levels are far below 60 dB-$L_{dn}$ and its clear that the project would not result in significant noise impacts at these locations. Noise levels were also modeled at seven additional locations where measurements were not conducted. These locations are identified with letters A through G. All measurements and modeling positions are indicated in Figure 6-1.

Open-graded asphalt will be used for the proposed project. These types of asphalt are known to result in reduced traffic noise. Sacramento County has used open-graded asphalt for several roadway resurfacing projects and has conducted noise studies on the effectiveness of rubberized asphalt in the reduction of traffic noise (Brown-Buntin Associates 1993, 1995, 1996). These studies conclude that the use of rubberized asphalt can result in a net noise reduction of at least 3 dB relative to conventional asphalt overlays.

Open-Graded Asphalt Concrete (OGAC) pavement, also known as porous asphalt, provides a porous surface that allows water to drain quickly through the pavement from the surface of the pavement. In addition to providing better wet-weather traction (e.g., reduced hydroplaning, surface spray, nighttime glare, etc.), this type of pavement also has been shown to reduce traffic noise levels. Although many studies indicated that an OGAC pavement can reduce noise levels upwards of 7 dB immediately, studies conducted by Caltrans indicate that a reduction in traffic noise of 4 to 6 dB is sustainable over time (California Department of Transportation 2001).

The FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) calculates a 1-hour $L_{eq}$ value based on the highest hourly traffic volume that is predicted to occur during the day, and does not take into account the effects of noise-reducing asphalt. For this reason, two adjustments have been made to the model results so that they can be evaluated using County criteria. First, it was conservatively assumed that the use of open-graded asphalt would result in a net reduction of 3 dB compared to dense-graded asphalt, and that dense-graded asphalt would continue to be used in the future if the proposed project is not implemented. Second, the $L_{dn}$ value is assumed to be 2 dB greater than the calculated worst hour noise level, based on the measurement results reported in Table 6-11.

Table 6-11 summarizes the results of traffic noise modeling for existing traffic conditions and 2020 conditions with and without each of the project alternatives. Table 6-11 provides several comparisons. First, the comparison of future no-project conditions to existing conditions denotes the increase in noise that would occur in the project area because of background growth in the area (without the effects of the project). The comparison of future project conditions to existing conditions shows the overall increase in noise because of background growth and implementation of the project. The comparison of future with-project conditions to future no-project conditions represents the direct effect of the project.

The comparison of future with-project conditions to future no-project conditions is used to assess the significance of noise impacts. None of the project alternatives would cause an increase (compared to no-project conditions) of more than 1 dB. Accordingly, based on the significance thresholds defined above, none of the project alternatives is predicted to result in a significant traffic noise impact. Although no mitigation is required, Mitigation Measure P6.3 is recommended to specify the process that the County will use in implementing noise-reducing asphalt.

# Mitigation Measures

This section details the mitigation measures identified for the project alternatives. Mitigation measures are identified as either of the following.

- *Proposed mitigation measures* are measures that the Placer County DPW, as project proponent, is either proposing as part of the project design or has agreed to implement.
- *Recommended mitigation measures* are measures that are identified in this environmental document but that the Placer County DPW has not chosen to implement, and which may be required by the Placer County Board of Supervisors if the project is approved.

**Table 6-11.** Comparison of Noise Modeling Results



| Receiver[a] | Existing Conditions | Existing-Plus-Related-Projects Conditions (Future No-Project) | Future with-Project Conditions | | | | Future No-Project Minus Existing Conditions | Future with-Project Minus Existing Conditions | | | | Future with-Project Minus Future No-Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Alt 1 | Alt 2 | Alt 3 | Alt 4 | | Alt 1 | Alt 2 | Alt 3 | Alt 4 | Alt 1 | Alt 2 | Alt 3 | Alt 4 |
| 1 | 65 | 65 | 64 | 63 | 63 | 63 | 0 | -1 | -2 | -2 | -2 | -1 | -2 | -2 | -2 |
| 2 | 72 | 73 | 74 | 70 | 71 | 71 | 1 | 2 | -2 | -1 | -1 | 1 | -3 | -2 | -2 |
| 3 | 72 | 73 | 69 | 70 | 71 | 69 | 1 | -3 | -2 | -1 | -3 | -4 | -3 | -2 | -4 |
| 4 | 68 | 69 | 68 | 66 | 66 | 67 | 1 | 0 | -2 | -2 | -1 | -1 | -3 | -3 | -2 |
| 5 | 65 | 66 | 64 | 64 | 64 | 63 | 1 | -1 | -1 | -1 | -2 | -2 | -2 | -2 | -3 |
| 6 | 63 | 64 | 61 | 63 | 61 | 61 | 1 | -2 | 0 | -2 | -2 | -3 | -1 | -3 | -3 |
| 7 | 64 | 65 | 62 | 62 | 62 | 62 | 1 | -2 | -2 | -2 | -2 | -3 | -3 | -3 | -3 |
| 8 | 62 | 63 | 63 | 60 | 61 | 61 | 1 | 1 | -2 | -1 | -1 | 0 | -3 | -2 | -2 |
| 9 | 68 | 69 | 70 | 66 | 68 | 67 | 1 | 2 | -2 | 0 | -1 | 1 | -3 | -1 | -2 |
| 10 | 64 | 65 | 64 | 63 | 63 | 63 | 1 | 0 | -1 | -1 | -1 | -1 | -2 | -2 | -2 |
| 11 | 67 | 68 | 67 | 65 | 66 | 66 | 1 | 0 | -2 | -1 | -1 | -1 | -3 | -2 | -2 |
| 12 | 63 | 64 | 62 | 62 | 61 | 61 | 1 | -1 | -1 | -2 | -2 | -2 | -2 | -3 | -3 |
| 13 | 62 | 63 | 61 | 61 | 61 | 61 | 1 | -1 | -1 | -1 | -1 | -2 | -2 | -2 | -2 |
| 14 | 63 | 65 | 63 | 62 | 63 | 62 | 2 | 0 | -1 | 0 | -1 | -2 | -3 | -2 | -3 |
| 15 | 64 | 66 | 64 | 63 | 64 | 64 | 2 | 0 | -1 | 0 | 0 | -2 | -3 | -2 | -2 |
| 16 | 62 | 64 | 64 | 61 | 62 | 62 | 2 | 2 | -1 | 0 | 0 | 0 | -3 | -2 | -2 |
| 17 | 65 | 67 | 65 | 64 | 64 | 64 | 2 | 0 | -1 | -1 | -1 | -2 | -3 | -3 | -3 |
| 18 | 67 | 69 | 67 | 66 | 67 | 68 | 2 | 0 | -1 | 0 | 1 | -2 | -3 | -2 | -1 |
| A | 61 | 61 | 59 | 58 | 58 | 58 | 0 | -2 | -3 | -3 | -3 | -2 | -3 | -3 | -3 |
| B | 62 | 62 | 60 | 60 | 60 | 60 | 0 | -2 | -2 | -2 | -2 | -2 | -2 | -2 | -2 |
| C | 60 | 61 | 60 | 59 | 59 | 59 | 1 | 0 | -1 | -1 | -1 | -1 | -2 | -2 | -2 |
| D | 68 | 69 | 66 | 66 | 66 | 65 | 1 | -2 | -2 | -2 | -3 | -3 | -3 | -3 | -4 |

**Table 6-11.** Continued



| Receiver[a] | Existing Conditions | Existing-Plus-Related-Projects Conditions (Future No-Project) | Future with-Project Conditions | | | | Future No-Project Minus Existing Conditions | Future with-Project Minus Existing Conditions | | | | Future with-Project Minus Future No-Project Conditions | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Alt 1 | Alt 2 | Alt 3 | Alt 4 | | Alt 1 | Alt 2 | Alt 3 | Alt 4 | Alt 1 | Alt 2 | Alt 3 | Alt 4 |
| E | 65 | 65 | 63 | 63 | 62 | 62 | 0 | 1 | 1 | 0 | -3 | 1 | 1 | 0 | -3 |
| F | 63 | 64 | 64 | 61 | 63 | 60 | 1 | 4 | 1 | 3 | -3 | 3 | 0 | 2 | -4 |
| G | 67 | 68 | 66 | 65 | 65 | 65 | 1 | 2 | 1 | 1 | -2 | 1 | 0 | 0 | -3 |

[a] Receiver with number indicates noise monitoring and modeling position, whereas receiver with letter indicates noise monitoring position.

## Proposed Mitigation Measures

### Mitigation Measure P6.1a: Implement Sound Control Requirements

Sound control shall conform to the provisions in Section 7-1.01I, "Sound Control Requirements," of the Placer County Standard Specifications.

The noise level from the contractor's operations and all construction activities, between the hours of 9:00 p.m. and 6:00 a.m., shall not exceed 86 dBA at a distance of 15 meters (50 feet) from the construction area. This requirement is no way relieves the contractor from responsibility for complying with local ordinances regulating noise level.

For blasting and drilling operations, Placer County DPW and its contractors shall limit operations to the period between 6:00 a.m. and 8:00 p.m. Monday through Friday and between 8:00 a.m. and 6:00 p.m. on Saturdays. No blasting or drilling shall be conducted on Sundays or on federal holidays.

All equipment shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust. As directed by the engineer, the contractor shall implement appropriate additional noise mitigation measures including, but not limited to, shutting off idling equipment and sending additional notifications of adjacent residents.

Said noise level requirements shall apply to all equipment on the job or related to the project, including, but not limited to, trucks, transit mixers, and transient equipment that may or may not be owned by the contractor. The use of loud sound signals shall be avoided in favor of light warnings, excepting those required by safety laws for the protection of personnel.

### Mitigation Measure P6.1b: Locate Equipment As Far from Noise-Sensitive Receivers As Practicable

Placer County DPW shall locate all stationary noise-generating equipment, such as pumps and generators, as far as possible from nearby noise-sensitive receivers. Where practicable, nearby noise-sensitive receivers shall be shielded from noise-generating equipment using noise-attenuating buffers, such as structures or haul-truck trailers. Stationary noise sources located less than 91 meters (300 feet) from noise-sensitive receivers shall be equipped with noise-reducing engine housings. Portable acoustical barriers shall be placed around noise-generating equipment located within 61 meters (200 feet) of residences. Water tanks and equipment storage, staging, and warm-up areas shall be located as far from noise-sensitive receivers as possible.

### Mitigation Measure P6.1c: Use Sound-Control Devices on Combustion-Powered Equipment

Placer County DPW shall ensure that all construction equipment powered by gasoline or diesel engines have sound-control devices at least as effective as those originally provided by the manufacturer. All equipment shall be operated and maintained to minimize noise generation. No equipment shall be permitted to have an unmuffled exhaust.

### Mitigation Measure P6.1d: Shield/Shroud Any Impact Tools

Any impact tools used during demolition of existing infrastructure shall be shrouded or shielded.

### Mitigation Measure P6.1e: Shut Off Machinery When Not in Use

Mobile noise-generating equipment and machinery shall be shut off when not in use.

### Mitigation Measure P6.1f: Use Shortest Traveling Routes, When Practicable

Placer County DPW shall require that construction vehicles accessing the project area use the shortest possible route to and from local freeways, provided the routes do not expose additional receivers to noise.

### Mitigation Measure P6.1g: Disseminate Essential Information to Residences and Implement a Complaint Response/Tracking Program

Placer County DPW shall send a notification of the construction schedule to people with residences and the operators of Beals Point Campground within 152 meters (500 feet) of the construction area. The notification shall be in writing and shall be delivered before construction. Placer County DPW and the construction contractor shall designate a noise disturbance coordinator, who shall be responsible for responding to complaints about construction noise. The coordinator shall determine the cause of each complaint and shall ensure that reasonable measures are implemented to correct the problem. A contact telephone number for the noise disturbance coordinator shall be posted conspicuously on construction site fences and shall be included in the written notification of the construction schedule sent to nearby residents.

### Mitigation Measure P6.1h: Implement Additional Mitigation Measures, As Needed and/or Required

Throughout the construction period, the construction contractor shall implement additional noise mitigation measures at the request of Placer County DPW. Additional measures may include changing the location of stationary noise-generating equipment, shutting off idling equipment, rescheduling construction activity, installing acoustical barriers around stationary sources of construction noise, temporarily relocating residents where feasible, using alternative equipment or construction methods that produce less noise, or other site-specific measures as appropriate.

### Mitigation Measure P6.2: Employ Measures to Reduce Airblast and Vibration from Blasting

The project contractor shall retain a qualified blasting specialist to develop a site-specific blasting program report to assess, control, and monitor airblast and ground vibration from blasting. The report shall be reviewed and approved by Placer County DPW before issuance of a blasting permit. The report shall include, at minimum, the following measures.

1. The contractor shall use current state-of-the-art technology to keep blast-related vibration at offsite residential and other occupied structures as low as

possible, consistent with blasting safety. In no instance shall blast vibration, measured on the ground adjacent to a residential or other occupied structure, be allowed to exceed the frequency-dependent limits specified in the Alternative Blasting Level Criteria contained in U.S. Bureau of Mines (USBM) Report of Investigations 8507.

2. The project contractor shall use current state-of-the-art technology to keep airblast at offsite residential and other occupied structures as low as possible. In no instance shall airblast, measured at a residence or other occupied structure, be allowed to exceed the 0.013-pounds per square inch (psi) (133-dB) limit recommended in USBM Report of Investigations 8485.

3. The project contractor shall monitor and record airblast and vibration for blasts within 305 meters (1,000 feet) of residences and other occupied structures to verify that measured levels are within the recommended limits at those locations. The contractor shall use blasting seismographs containing three channels that record in three mutually perpendicular axes and which have a fourth channel for recording airblast. The frequency response of the instrumentation shall be from 2 to 250 Hertz (Hz), with a minimum sampling rate of 1,000 samples per second per channel. The recorded data must be such that the frequency of the vibrations can be determined readily. If blasting is found to exceed specified levels, blasting shall cease, and alternative blasting or excavation methods shall be employed that result in the specified levels not being exceeded.

Airblast and vibration monitoring shall take place at the nearest offsite residential or other occupied structure. If vibration levels are expected to be lower than those required to trigger the seismograph at that location, or if permission cannot be obtained to record at that location, recording shall be accomplished at some closer site in line with the structure. Specific locations and distances where airblast and vibration are measured shall be documented in detail along with measured airblast and vibration amplitudes.

### Mitigation Measure P6.3: Use Noise-Reducing Pavement

Placer County DPW shall place noise-reducing open-graded asphalt pavement or equivalent throughout the project area. Placer County DPW shall consult staff from Sacramento County and Caltrans to identify the formulation specifications for the open-graded asphalt that are most effective in reducing traffic noise. The pavement type selected shall have a minimum sound reduction capacity of 3 dB, based on long-term weathered conditions.

## Recommended Mitigation Measures

There are no recommended noise mitigation measures.

**Table 6-12.** Noise Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **NOISE** | | | | |
| Impact 6.1 Exposure of Noise-Sensitive Land Uses (Residences and Campgrounds) to Construction Noise | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P6.1a: Implement Sound Control Requirements<br>P6.1b: Locate Equipment As Far from Noise-Sensitive Receivers As Practicable<br>P6.1c: Use Sound-Control Devices on Combustion-Powered Equipment<br>P6.1d: Shield/Shroud Any Impact Tools<br>P6.1e: Shut Off Machinery When Not in Use<br>P6.1f: Use Shortest Traveling Routes, When Practicable<br>P6.1g: Disseminate Essential Information To Residences and Implement a Complaint Response/Tracking Program<br>P6.1h: Implement Additional Mitigation | P6.1a: Implement Sound Control Requirements<br>P6.1b: Locate Equipment As Far from Noise-Sensitive Receivers As Practicable<br>P6.1c: Use Sound-Control Devices on Combustion-Powered Equipment<br>P6.1d: Shield/Shroud Any Impact Tools<br>P6.1e: Shut Off Machinery When Not in Use<br>P6.1f: Use Shortest Traveling Routes, When Practicable<br>P6.1g: Disseminate Essential Information To Residences and Implement a Complaint Response/Tracking Program<br>P6.1h: Implement Additional Mitigation | P6.1a: Implement Sound Control Requirements<br>P6.1b: Locate Equipment As Far from Noise-Sensitive Receivers As Practicable<br>P6.1c: Use Sound-Control Devices on Combustion-Powered Equipment<br>P6.1d: Shield/Shroud Any Impact Tools<br>P6.1e: Shut Off Machinery When Not in Use<br>P6.1f: Use Shortest Traveling Routes, When Practicable<br>P6.1g: Disseminate Essential Information To Residences and Implement a Complaint Response/Tracking Program<br>P6.1h: Implement Additional Mitigation | P6.1a: Implement Sound Control Requirements<br>P6.1b: Locate Equipment As Far from Noise-Sensitive Receivers As Practicable<br>P6.1c: Use Sound-Control Devices on Combustion-Powered Equipment<br>P6.1d: Shield/Shroud Any Impact Tools<br>P6.1e: Shut Off Machinery When Not in Use<br>P6.1f: Use Shortest Traveling Routes, When Practicable<br>P6.1g: Disseminate Essential Information To Residences and Implement a Complaint Response/Tracking Program<br>P6.1h: Implement Additional Mitigation |

**Table 6-12.** Noise Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| | Measures, As Needed and/or Required | Measures, As Needed and/or Required | Measures, As Needed and/or Required | Measures, As Needed and/or Required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 6.2 Exposure of Residences and Campgrounds to Airblast and Vibration from Blasting | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P6.2: Employ Measures to Reduce Airblast and Vibration from Blasting | P6.2: Employ Measures to Reduce Airblast and Vibration from Blasting | P6.2: Employ Measures to Reduce Airblast and Vibration from Blasting | P6.2: Employ Measures to Reduce Airblast and Vibration from Blasting |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 6.3 Exposure of Noise-Sensitive Land Uses (Residences and Campgrounds) to Increased Traffic Noise Levels | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | P6.3: Use Noise-Reducing Pavement | P6.3: Use Noise-Reducing Pavement | P6.3: Use Noise-Reducing Pavement | P6.3: Use Noise-Reducing Pavement |
| Significance After Mitigation | LS | LS | LS | LS |

Key:

SU = Significant and unavoidable.

S = Significant.

PS = Potentially significant.

LS = Less than significant.

NI = No impact.

NA = Not applicable.

Chapter 7
# Visual Resources/Aesthetics

This chapter describes the aesthetic character of the region and the project corridor, discusses existing sources of light and glare, and identifies viewer groups in the project area. This information is based on FHWA guidance regarding aesthetic evaluations and on a visit to the project site. Photographs of the project area (Figures 7-2 through 7-6) and a map of the locations from which they were taken (Figure 7-1) are presented at the end of the chapter. Concepts and terminology used in this assessment of visual resources are defined below. This chapter also identifies the proposed project's potential impacts on aesthetics.

## Concepts and Terminology for Aesthetics Analysis

Identification of a project area's existing visual resources and conditions involves three steps:

- Objective identification of the visual features (visual resources) of the landscape.
- Assessment of the *character* and *quality* of those resources relative to overall regional visual character.
- Determination of the importance to people, or *sensitivity*, of views of visual resources in the landscape.

The aesthetic value of an area is a measure of its visual *character* and *quality*, combined with the viewer response to the area (Federal Highway Administration 1983). The scenic quality component can best be described as the overall impression that an individual viewer retains after driving though, walking though, or flying over an area (U.S. Bureau of Land Management 1980). Viewer response is a combination of *viewer exposure* and *viewer sensitivity*. Viewer exposure is a function of the number of viewers, the number of views seen, the distance of the viewers, and the viewing duration. Viewer sensitivity relates to the extent of the public's concern for particular viewsheds. These terms and criteria are described in detail below.

## Viewshed

A *viewshed* is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail) (Federal Highway Administration 1983). To identify the importance of views of a resource, a viewshed may be broken into distance zones of *foreground, middleground,* and *background.* Generally, the closer a resource is to the viewer, the more dominant it is and the greater is its importance to the viewer. Although distance zones in viewsheds may vary between different geographic regions or types of terrain, the standard foreground zone is 0.4–0.8 kilometer (0.25–0.5 mile) from the viewer, the middleground zone extends from the foreground zone to 4.8–8 kilometers (3–5 miles) from the viewer, and the background zone extends from the middleground zone to infinity (U.S. Forest Service 1974).

## Visual Character

Both natural and artificial landscape features make up the *character* of a view. Character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with landscape settlement and development, such as roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally and even hourly as weather, light, shadow, and the elements that compose the viewshed change. Form, line, color, and texture are the basic components used to describe visual character and quality for most visual assessments (U.S. Forest Service 1974, Federal Highway Administration 1983). The appearance of the landscape is described in terms of the dominance of each of these components.

## Visual Quality

Visual *quality* is evaluated using the well-established approach to visual analysis adopted by FHWA, employing the concepts of vividness, intactness, and unity (Federal Highway Administration 1983, Jones et al. 1975), as defined below.

- *Vividness* is the visual power or memorability of landscape components as they combine in striking or distinctive visual patterns.
- *Intactness* is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, as well as in natural settings.
- *Unity* is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the artificial landscape. (Federal Highway Administration 1983.)

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as modified by its visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

### Visual Sensitivity and Viewer Response

The measure of the quality of a view must be tempered by the overall *sensitivity* of the viewer. Viewer sensitivity is based on the visibility of resources in the landscape, the proximity of viewers to the visual resource, the elevation of viewers relative to the visual resource, the frequency and duration of viewing, the number of viewers, and the type and expectations of individuals and viewer groups. For example, visual sensitivity is higher for views seen by people who are driving for pleasure; people engaging in recreational activities such as hiking, biking, or camping; and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work (U.S. Forest Service 1974, Federal Highway Administration 1983, U.S. Soil Conservation Service 1978). Commuters and nonrecreational travelers have generally fleeting views and tend to focus on commute traffic and not on surrounding scenery, and therefore are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they generally are considered to have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.

Judgments of visual quality and viewer response must be made based in a regional frame of reference (U.S. Soil Conservation Service 1978). The same type of visual resource in different geographic areas could have a different degree of visual quality and sensitivity in each setting. For example, a small hill may be a significant visual element in a flat landscape but have very little significance in mountainous terrain.

# Affected Environment

## Environmental Setting

### Regional Aesthetic Character

The project corridor is located in southeastern Placer County, a transition zone between the flat, open lands of the Sacramento Valley and the foothills of the Sierra Nevada. I-80 traverses the region to the west and north of the project area, through a landscape dominated by mixed conifer and oak woodlands and annual grasslands with occasional rock outcrops. The contrasts in form, color, and texture of this vegetation add visual variety and interest to the foothill landscape.

The project corridor is located in the Granite Bay community, east of the City of Roseville and west of Folsom Lake State Recreation Area (SRA). The overall project area has been undergoing considerable suburbanization, moving from a rural character to mixed uses of housing developments and retail centers.

## Description of the Project Corridor

Auburn-Folsom Road is considered a scenic roadway by Placer County. In Placer County, the road is a two-lane and four-lane thoroughfare that links U.S. Highway 50 in Folsom and communities along the I-80 corridor (e.g., Auburn and Roseville). Traffic on the roadway is a mix of cross-town and local commuters and recreational travelers.

Although there are some commercial, residential, and industrial uses at the north and south ends of the project corridor, the eastern viewshed is dominated by the Folsom Lake SRA and an earth dike that helps contain Folsom Lake (also known as a "wing dam" because it connects to the main concrete dam of Folsom Lake). From the roadway, views to the east primarily comprise gentle slopes with annual grasslands, oak scrub, and pine trees. Toward the southern end of the corridor, the earth dike of Folsom Lake is sometimes visible as a high, level ridge covered with grasses and boulders (Figure 7-2).

The western side of the project corridor contains a variety of residential and commercial uses, with a patchwork of native and ornamental vegetation, different types of fencing, residences with varied setbacks, and, infrequently, small roadside advertisements. Numerous trees screen the residences from the road. The mix of housing and vegetation types lends the feeling of a rural, agrarian character, but does not have a high level of unity. Also, the road contrasts subtly with the surrounding landscape because of features that are typical of suburbanized roadways, such as signalized intersections and striped turn pockets.

Auburn-Folsom Road cuts into slopes in some portions of the project corridor. Some of these cut slopes have exposed natural granite substrate (Figure 7-2). In other places, the roadway shoulder drops off at a sharp angle on the west side. There are no medians, and the shoulders are composed of gravel or mowed annual vegetation in many locations. Overhead power lines and the occasional cellular phone tower are visible from the road.

Overall, the project corridor has moderate visual quality. The unity and intactness of the natural landscape are somewhat impaired by intruding elements such as utility lines, signs, and property-specific vegetation and built elements. The eastern landscape of hills and native vegetation is moderately vivid.

### Viewpoints and Visual Resources

Views of the roadway from representative locations, as well as the visual characteristics of the project corridor, are described below and documented with photographs.

### Northern Terminus, Near Douglas Boulevard

Near its intersection with Douglas Boulevard, Auburn-Folsom Road is four lanes wide and flanked by commercial shopping centers, gas stations, and restaurants. These land uses have relatively low profiles and landscaped setbacks. Going south from the intersection, travelers ascend a small hill; here, commercial uses taper off and more expansive views of the project corridor become available.

### Mobile Home Parks on West Side

There are two mobile home parks on the west side of Auburn-Folsom Road. Whispering Pines Mobile Home Park is bounded on the north by a parking lot and small business. One mobile home in this park is located fairly close to the existing roadway and is shielded by a fence and vegetation (Figure 7-3).

Ridgeview Mobile Home Park also is located in the project corridor. The entryway of this park is manicured with lawn and ornamental vegetation. From both mobile home parks, residents are able to see the roadway, but are somewhat screened by vegetation, fencing, and other homes.

### Other Residential Uses to the East and West

Homes on individual lots in the project corridor predominantly are of a rural ranchette style, with varying setbacks, mailboxes, fencing styles, vegetation types, and architectural styles (Figure 7-3). Most residents have obscured or partially screened views of the roadway from their homes, because of intervening topography, fences, or vegetation. A few homes are located east of the roadway, north of the Folsom Lake SRA.

There is a newer, gated community on the west side of Auburn-Folsom Road, at Woodchase Drive. This development has a manicured entryway with ornamental vegetation and a down light. Its presence adds a more suburban element to the primarily rural character of the corridor.

### Folsom Lake State Recreation Area

The Folsom Lake SRA dominates the southern and eastern portions of the project corridor. Traveling north to south along the roadway, views of the SRA are composed of gentle swells covered with oak scrub, conifers, and annual grassland (Figure 7-4). These views are mostly foreshortened by tree canopies and the rising ridge of the Folsom Lake earth dike, which precludes background views when looking directly east. However, from elevated portions of the roadway (for example, going north to south), travelers can look southeast to see a distant expanse of oak and conifer woodland.

Toward the southern end of the project corridor, the grassy and rocky ridges bordering Folsom Lake become prominent in the east.

In addition to the one main vehicle entrance from Auburn-Folsom Road to the Folsom Lake SRA, there is a marked path leading from the shoulder of the roadway up a slope to the earth dike ridge. From two approximately 0.8 kilometers (0.5-mile) segments of this paved ridge, Auburn-Folsom Road is clearly visible to hikers, bicyclists, and horseback riders (Figure 7-4). The road also is visible from approximately 16 campsites in a recreational vehicle (RV) campground in the southern portion of the SRA (Figure 7-5). Finally, hikers and bicyclists using the trail near the vehicle entrance have relatively constant views of the roadway (Figure 7-5).

#### San Juan Water District Plant and Surrounds

Located at the southern end of the project corridor, to the east, is a water treatment facility operated by the San Juan Water District. The facility has an industrial yard surrounded by chain-link fencing (Figure 7-6). Behind this yard, travelers on Auburn-Folsom Road can see the face of the earth dike. Across the street from the water treatment facility is a retail center and associated parking lot with manicured landscaping.

## Viewer Groups

Viewer groups in the project area, and their sensitivity to visual changes in the project corridor, are characterized below.

### Travelers on Auburn-Folsom Road

Travelers on Auburn-Folsom Road include residents of the area, commuters, employees of businesses near Auburn-Folsom Road, and park users from the region and beyond. The primary users are assumed to be commuters and nonrecreational travelers. These travelers generally tend to focus on traffic rather than on surrounding scenery. For this reason, these travelers are considered to have low to moderate aesthetic sensitivity.

### Residents

Auburn-Folsom Road is flanked by small residential developments, rural ranchette–style homes, and two mobile home parks. Most homes are screened from direct views of the roadway by vegetation, fences, or topography, but some, especially at the Whispering Pines Mobile Home Park, have more visual exposure to the road. Most residents have prolonged direct or indirect views of the project corridor and all are considered aesthetically sensitive.

### Folsom Lake SRA Users

Recreational users of the Folsom Lake SRA include RV campers, bicyclists, hikers, and horseback riders. Currently, RV campers and trail users are exposed to views of Auburn-Folsom Road in several locations, including campgrounds. However, these park users are attracted to the Folsom Lake SRA for its scenic quality, and are therefore considered moderately to highly sensitive to adverse changes in views.

#### Businesses

One industrial facility and several businesses are located along the project corridor, primarily at the southern and northern ends. Employees of these facilities tend not to be focused on scenery, and are considered to have low sensitivity to visual changes in the corridor.

### Sources of Light and Glare

South of the commercial area near Douglas Boulevard, the project corridor does not have street lighting. At signalized intersections, such as the Auburn-Folsom Road/Eureka Road intersection (Figure 7-6), there are approximately 7.6-meter-tall (25-foot) street light masts with "single cobra" fixtures. There is also a shorter down light at the gated entrance of the Woodchase development.

## Regulatory Setting

### Federal and State

There are no federal or state regulations that pertain to visual resources in the project area. The Reclamation has a NEPA guidance document, but this document does not contain any requirements specific to visual resources.

### Local

#### Placer County General Plan

The Placer County General Plan contains the following applicable goals and policies (Placer County 1994):

**Visual and Scenic Resources**
**Goal 1.K.** To protect the visual and scenic resources of Placer County as important quality of life amenities for county residents and a principal asset in the promotion of recreation and tourism.

**Policy 1.K.5.** The County shall require that new roads, parking, and utilities be designed to minimize visual impacts. Unless limited by geological or engineering constraints, utilities should be installed underground and roadways and parking areas should be designed to fit the natural terrain.

**Scenic Routes**
Auburn-Folsom Road is designated as a Scenic Route in the Placer County General Plan. The Scenic Routes section of the Placer County General Plan Land Use Element identifies policies to protect scenic resources visible from scenic routes in the county. This section serves as the basis for review of the

visual implications of development along designated scenic roadway corridors. The element recognizes the visual value of the County's rural character and open space and establishes goals and policies to retain the rural character of the County's scenic roadways. Goals and policies relevant to the proposed project are listed below.

**Goal 1.L.** To develop a system of scenic routes serving the needs of residents and visitors to Placer County and to preserve, enhance, and protect the scenic resources visible from these scenic routes.

**Policy 1.L.1.** The County shall designate scenic routes within the county in order to preserve out-standing scenic quality within different geographic settings.

**Policy 1.L.3.** The County shall protect and enhance scenic corridors through such means as design review, sign control, underground utilities, scenic setbacks, density limitations, planned unit developments, grading and tree removal standards, open space easements, and land conservation contracts.

**Policy 1.L.4.** The County shall provide for landscaping and/or landscaped mounding along designated scenic corridors where desirable to maintain and improve scenic qualities and screen unsightly views.

**Policy 1.L.5.** The County shall encourage the development of trails, picnicking, observation points, parks, and roadside rests along scenic highways.

**Policy 1.L.7.** The County shall encourage the use of bicycles as an alternative mode of travel for recreational purposes in scenic corridors.

**Policy 1.L.8.** The County shall include aesthetic design considerations in road construction, reconstruction, or maintenance for all scenic routes under County jurisdiction.

## Granite Bay Community Plan

The Granite Bay Community Plan states:

> The unique natural setting of the Granite Bay community is the primary factor in the creation of the quality of life of the community residents. The community contains the gentle oak and grassland foothills, flatter valley areas, valley stream corridors containing riparian habitat, floodplains, and groundwater aquifers. The community is endowed with a variety of landforms and environmental resources creating a mosaic of natural features and aesthetic qualities. The preservation of these natural features represents the single most important community conservation value.
>
> Granite Bay residents have repeatedly expressed their desire to maintain the community's rural atmosphere and residential character. The conservation of natural resources is implied in this desire and has been reinforced through community planning efforts and land use regulations. For these reasons, it is apparent that the foundation of a strong community conservation ethic exists.

> For the purpose of truly effective conservation, development and utilization of natural resources, however, there is a need for a more widespread understanding of how the ecosystem functions. The Conservation, Open Space, and Cultural Resources Elements are intended to contribute to this understanding. These Elements define conservation goals and policies and provide a framework for the conservation and utilization of natural, open space and cultural resources and protection of the aesthetic qualities of the community.

Goals and policies from the Community Plan that are relevant to the proposed project are listed below.

### Conservation Element

**Conservation Implementation Policy 4:** Removal of vegetation shall be minimized and where removal is necessary, replanting erosion, maximize reoxygenation, and retain the aesthetic qualities of the community.

### Open Space Element

**Purpose.** The purpose of the Open Space Element is to identify limited and valuable natural resources of the area that need to be preserved.

**Goal 4.** To protect the natural beauty and minimize disturbance of the natural terrain and vegetation.

**Goal 7.** To conserve the visual resources of the community, including the important vistas, such as those of the hillsides as seen from the valley below, and those of the valley as seen from the hillsides.

**Policy 3.** Encourage scenic or greenbelt corridors along major transportation routes. Roads and other public works shall incorporate beauty as well as utility, safety, and economy.

### Other Open Space Guidance

The Community Plan classifies the project corridor as an example of one type of open space targeted for preservation:

> 3. Open Space for Outdoor Recreation
>
> Included in this category would be several outstanding scenic routes (Auburn-Folsom Road, Sierra College Boulevard). Also included would be greenbelts along major County roads to provide an aesthetically pleasing drive as well as creating a noise buffer. There would also be park sites and school property dedicated to playground use, as well as access points to areas such as Folsom Lake. Even smaller open space areas surrounding individual residences in rural areas when considered in the aggregate constitute a sizable area of visually open landscape.

# Environmental Consequences

## Criteria for Determining Significance under CEQA

Appendix G of the State CEQA Guidelines, Placer County thresholds, and standard professional practice were used to determine whether the proposed project would have a significant environmental impact. The proposed project may have a significant impact on visual resources under CEQA if it would

- cause impacts on a scenic vista or scenic highway;
- have demonstrable negative aesthetic effects;
- create adverse light or glare effects; or
- substantially damage "scenic resources," including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

## Methods and Assumptions for the Impact Analysis

The evaluation of changes in the visual environment is based on the visual features of the landscape, their quality and character, and their importance to people. These features of the Auburn-Folsom Road landscape were assessed and are described under "Affected Environment." With this preliminary establishment of the baseline (existing) condition, the project can be systematically evaluated for its degree of visual impact. The degree of impact depends on the magnitude of change in the aesthetic resource (i.e., aesthetic character and quality) and on viewers' responses to and concern for those changes.

Numerous federal agencies and organizations have created or defined visual assessment methodologies to improve the quality and accuracy of visual analysis. The approach for this visual assessment is adapted from FHWA's visual impact assessment system (Federal Highway Administration 1983), in combination with other established visual assessment systems. The visual impact assessment process involves identifying

- relevant policies and concerns for protection of visual resources;
- visual resources (i.e., the visual character and quality) of the region, the immediate project area, and the project corridor;
- important viewing locations (e.g., roads) and the general visibility of the project area and site (documented using descriptions and photographs);
- viewer groups and their sensitivity;
- project-related changes to visual resources and views and the impacts that would result; and
- ways to mitigate adverse visual impacts.

# Impacts

## Planning- and Design-Related Impacts

### Impact 7.1 Potential Inconsistency with Local Goals and Policies

The Placer County General Plan and the Granite Bay Community Plan contain goals and policies specific to scenic roads and corridors. These goals and policies are listed below.

**Placer County General Plan**
**Policy 1.L.7:** The County shall encourage the use of bicycles as an alternative mode of travel for recreational purposes in scenic corridors.

**Policy 1.L.8:** The County shall include aesthetic design considerations in road construction, reconstruction, or maintenance for all scenic routes under County jurisdiction.

**Granite Bay Community Plan**
**Policy 3:** Encourage scenic or greenbelt corridors along major transportation routes. Roads and other public works shall incorporate beauty as well as utility, safety, and economy.

The Community Plan also classifies the project corridor as an example of one type of open space targeted for preservation:

> 3. Open Space for Outdoor Recreation
>
> Included in this category would be several outstanding scenic routes (Auburn-Folsom Road, Sierra College Boulevard). Also included would be greenbelts along major County roads to provide an aesthetically pleasing drive as well as creating a noise buffer. There would also be park sites and school property dedicated to playground use, as well as access points to areas such as Folsom Lake. Even smaller open space areas surrounding individual residences in rural areas when considered in the aggregate constitute a sizable area of visually open landscape.

The proposed project involves widening the existing roadway along a designated scenic corridor. Because the project does not involve developing the scenic corridor and would preserve trails and park access points, this impact is considered less than significant. To ensure that Placer County DPW incorporates aesthetic value among its design considerations and remains consistent with visual policies, Mitigation Measures P7.1a, P7.1b, and P7.1c are recommended.

# Construction-Related Impacts

## Impact 7.2 Temporary Visual Impact Caused by Construction Activities

During construction of the proposed project, equipment and vehicles would be operating on and near Auburn-Folsom Road. Some vehicles and equipment would be stored in the project corridor after construction work hours.

Because of the presence of equipment, vehicles, and construction personnel, construction of the proposed project would temporarily degrade the visual quality of views of Auburn-Folsom Road. Also, dust and emissions rising from the construction site may be visible.

All viewer groups would be affected by this change in visual quality; however, residents and park users likely would be more sensitive to this change. Residents would have prolonged visual exposure to construction activities and equipment, and park users would be sensitive to the additional visual intrusion into the natural setting of the park. Travelers would also be somewhat sensitive to the temporary visual degradation, because Auburn-Folsom Road is considered a scenic corridor.

Although construction activities would affect the visual quality of the corridor, the impact would be temporary.

This impact is common to all build alternatives and is considered less than significant. Several practices and measures required to mitigate air quality impacts (see Chapter 4) would further reduce this impact. No mitigation is required.

# Operation-Related Impacts

## Impact 7.3 Degradation of Views and Increase in Glare

The proposed road widening could bring the roadway closer to residences or other buildings, resulting in a visual impact. During the day, residents and other viewers, such as campers, would have close-up views of passing vehicles. New lights installed at intersections would increase nighttime light in the project area. Although vegetation and topography would screen most nearby land uses from direct light, indirect, reflected light would be visible in the night sky above the roadway. Any increase in ambient light would have a negative effect on the Folsom Lake SRA (in particular, on nearby overnight campers).

This impact differs among alternatives, as described below.

### Alternative 1: Widen Roadway to the West

In addition to the impact of reflected nighttime light, the new roadway under Alternative 1 would be very close (2.3–4.6 meters [7.5–15 feet]) to at least two homes and one business. This proximity would allow direct street lighting and headlight glare to intrude on homes at night (the business is closed at night and would not be affected). Residents would be highly sensitive to this intrusion. Also, close-up views of the roadway during the day would have a negative visual effect. This impact is considered significant. Implementation of Mitigation Measures P7.3a and P7.3b would reduce this impact to a less-than significant level.

### Alternative 2: Widen Roadway to the East

Unlike Alternative 1, Alternative 2 would not bring the roadway (and associated headlight and streetlight glare) close to homes or businesses, because the widening would take place mostly on the east side. However, the impact of indirect light from new light fixtures is considered significant. Implementation of Mitigation Measure 7.3a would reduce this impact to a less-than-significant level.

### Alternative 3: Widen Roadway Equally on Both Sides

Alternative 3 would not bring the roadway (and associated glare) close to homes or businesses, because the widening would take place on both sides of the existing roadway, thereby limiting the extent of construction on the west side. However, the impact of indirect light from new light fixtures is considered significant. Implementation of Mitigation Measure P7.3a would reduce this impact to a less-than-significant level.

### Alternative 4: County DPW–Preferred Alternative

Alternative 4 would not bring the roadway (and associated glare) close to homes or businesses. However, the impact of indirect light from new light fixtures is considered significant. Implementation of Mitigation Measure P7.3a would reduce this impact to a less-than-significant level.

## Impact 7.4 Degradation of Visual Quality Resulting from Tree Removal

The widening would require removal of trees and other vegetation along the entire project alignment. An arborist's report was prepared for the proposed project in June 2002. The arborist identified and inventoried all trees of more than 15 centimeters (6 inches) in diameter at breast height (dbh) within the project corridor. The removal of such trees and other vegetation would affect residents, park users, and travelers on Auburn-Folsom Road. Park users at the park facilities near Auburn-Folsom Road would be sensitive to the removal of trees, because the project corridor is visible from trails and campgrounds. Travelers on the scenic roadway would experience diminished visual quality and a change in the rural character of the corridor.

This impact differs among alternatives, as described below.

### Alternative 1: Widen Roadway to the West

Alternative 1 would widen Auburn-Folsom Road primarily on the west side of the roadway. Some vegetation removal also would be required on the east side of the roadway. Alternative 1 would remove 371 trees, 296 of which are native. Ornamental vegetation and vegetative screens also would be removed. Travelers and park users would be affected and, under Alternative 1, some residents would be exposed to direct views of the roadway after screening vegetation is removed. This impact is considered significant. Implementation of Mitigation Measures P7.4a and P7.4b would reduce the effect of vegetation removal, but not to a less-than-significant level. Therefore, this impact is considered significant and unavoidable.

### Alternative 2: Widen Roadway to the East

Alternative 2 would widen Auburn-Folsom Road primarily on the east side of the roadway, although some vegetation removal would be required on the west side of the roadway. Alternative 2 would remove 389 trees, 359 of which are native. In addition, smaller trees, ornamental vegetation, and some vegetative screens would be removed.

Under Alternative 2, fewer residents would be exposed to direct views of the roadway, compared to Alternative 1. However, users of campsites and trails in the Folsom Lake SRA would be more exposed to views of the roadway. Travelers on the scenic roadway also would experience diminished visual quality. This impact is considered significant. Implementation of Mitigation Measures P7.4a and P7.4b would reduce the effect of vegetation removal, but not to a less-than-significant level. Therefore, this impact is considered significant and unavoidable.

### Alternative 3: Widen Roadway Equally on Both Sides

Under Alternative 3, Auburn-Folsom Road would be widened on both sides, requiring less vegetation removal on the west side (compared to Alternative 1) and less vegetation removal on the east side (compared to Alternative 2). A total of 364 trees would be removed, 318 of which are native. Although these trees and ornamental vegetation would be removed, the vegetative screens between the roadway and most homes would be preserved. Nevertheless, users of campsites and trails in the Folsom Lake SRA would be more exposed to views of the roadway. Travelers on the scenic roadway also would experience diminished visual quality. This impact is considered significant. Implementation of Mitigation Measures P7.4a and P7.4b would reduce the effect of vegetation removal, but not to a less-than-significant level. Therefore, this impact is considered significant and unavoidable.

### Alternative 4: County DPW–Preferred Alternative

Under Alternative 4, Auburn-Folsom Road would be widened on alternating sides. A total of 346 trees would be removed, 313 of which are native. Although these trees and ornamental vegetation would be removed, the vegetative screens between the roadway and most homes would be preserved. Nevertheless, users of campsites and trails in the Folsom Lake SRA would be more exposed to views of the roadway. Travelers on the scenic roadway also would experience diminished visual quality. This impact is considered significant. Implementation of Mitigation Measures P7.4a and P7.4b would reduce the effect of vegetation removal, but not to a less-than-significant level. Therefore, this impact is considered significant and unavoidable.

## Impact 7.5 Degradation of Visual Quality Resulting from Cuts, Grading, and Other Changes in Topography

Construction of the proposed project would necessitate small changes in the topography and grade of land surrounding the existing roadway. Where the new roadway would cut into gentle slopes, the surrounding land would be graded to achieve stability. Placer County is considering the use of retaining walls as a design option. With or without retaining walls, residents and travelers would have frequent exposure to any changes in topography, which would constitute a slight degradation in visual quality. Park users on the east side of the road may notice the changes resulting from grading, if viewing them from the edge of the park or the trail at the top of the wing dam.

This impact differs among alternatives, as described below.

### Alternative 1: Widen Roadway to the West

Under Alternative 1, most grading, cuts, and fill would take place on the west side of the roadway, although some changes would be made on the east side. Because the west side of the corridor is already developed with residential uses, there are few uphill slopes (requiring cuts). There are some locations (such as the vicinity of Woodchase Drive) where the roadway would cut into the hillside to the west and possibly require a retaining wall. This impact is considered less than significant. No mitigation is required.

### Alternative 2: Widen Roadway to the East

Under Alternative 2, grading and cuts would take place on the east side of the roadway, although some changes would be made on the west side. Some existing cuts on the east side of the road would need to be expanded, and the natural granite may need to be buttressed by retaining walls. If installed, such retaining walls would be inconsistent with the natural character of the view to the east.

The changes in topography under Alternative 2 would constitute a degradation of visual quality. This impact is considered significant. Implementation of Mitigation Measure P7.5a would reduce this impact to a less-than-significant level.

### Alternative 3: Widen Roadway Equally on Both Sides

Under Alternative 3, grading and cuts would take place on both sides of the roadway. Because both sides would be equally affected, the extent of cuts and grading on either the west or east side would be smaller than under Alternative 1 or Alternative 2.

Some existing cuts on the east side of the roadway would need to be expanded, and the natural granite may need to be buttressed by retaining structures. This impact is considered significant. Implementation of Mitigation Measure P7.5a would reduce this impact to a less-than-significant level.

#### Alternative 4: County DPW–Preferred Alternative

Under Alternative 4, grading and cuts would take place on both sides of the roadway. Grading and cuts would occur in patterns similar to Alternatives 1 and 2. The changes in topography may therefore constitute a degradation of visual quality. This impact is considered significant. Implementation of Mitigation Measure P7.5 would reduce this impact to a less-than-significant level.

# Mitigation Measures

This section details the mitigation measures identified for the project alternatives. Mitigation measures are identified as either of the following.

- *Proposed mitigation measures* are measures that the Placer County DPW, as project proponent, is either proposing as part of the project design or has agreed to implement.
- *Recommended mitigation measures* are measures that are identified in this environmental document but that the Placer County DPW has not chosen to implement, and which may be required by the Placer County Board of Supervisors if the project is approved.

## Proposed Mitigation Measures

#### Mitigation Measure P7.1a: Preserve Existing Trail Access Points in Project Design

Placer County DPW shall ensure that any existing trailheads within the construction corridor are preserved or reconstructed after the project is complete.

#### Mitigation Measure P7.1b: Provide Class II Bikeway

Placer County DPW shall provide a Class II bikeway along Auburn-Folsom Road pursuant to the Placer County Bikeways Master Plan. The location, width, alignment, and surfacing of the bikeway shall be in accordance with the bikeway design standards listed in the Placer County General Plan.

#### Mitigation Measure P7.1c: Revegetate All Disturbed Areas

Placer County DPW or an approved contractor shall revegetate all disturbed areas. Revegetation undertaken between April 1 and October 1 shall include regular watering to ensure adequate growth. A winterization plan shall be provided with project Improvement Plans. It is Placer County DPW's responsibility to ensure proper installation and maintenance of erosion control/winterization during project construction. Placer County DPW shall provide for erosion control where roadside drainage is off of the pavement.

Placer County DPW shall maintain a letter of credit, surety bond, or cash deposit in the amount of 100% of an approved engineer's estimate for winterization and permanent erosion control work before Improvement Plan approval to guarantee protection against erosion and improper grading practices.

**Mitigation Measure P7.3a: Select Street Lights to Minimize Exposure to Glare and Light**

Streetlight(s), designed in accordance with the *American National Standard Practice for Roadway Lighting Manual,* shall be provided and installed to the satisfaction of Placer County DPW and PG&E at intersections along the project corridor, as needed.

Streetlights shall be of a type, height, and design to direct lighting downward, shielding, to the greatest extent practical, light exposure beyond that needed for proper intersection lighting.

**Mitigation Measure P7.3b: Construct Fence between Affected Residences and Roadway**

Placer County DPW shall construct a solid fence between the new roadway and the two affected residences. The fence shall be constructed of a solid, opaque material that is visually cohesive with the surrounding structures and landscape. The fence shall be high enough to block direct headlight glare.

**Mitigation Measure P7.4a: Obtain a Tree Permit**

Before any construction activity, including grading or other site disturbance, Placer County DPW shall acquire a Tree Permit for the removal of trees 15 centimeters (6 inches) dbh or larger and multitrunked trees with an aggregate diameter of 30 centimeters (10 inches) dbh or more.

**Mitigation Measure P7.4b: Mitigate Tree Removal**

Trees identified for removal and trees with disturbance within their driplines shall be replaced along the corridor as feasible.

1. Trees removed from Reclamation property shall be replaced on Reclamation property on an inch-by-inch basis. For example, if 254 centimeters (100 inches) of tree diameter are proposed to be removed, the replacement trees shall be equal to 254 centimeters (100 inches) in diameter (aggregate). If feasible, seedlings should be from acorns collected within 30 miles of the project location in Placer or Sacramento Counties in the American River watershed and between the elevations of 100 and 800 feet. A 3-year monitoring and maintenance plan for the trees and any irrigation shall be required. The expectation is that there will be 100% survival for the replacement trees at the end of 3 years.
2. In lieu of 50% of the mitigation for tree removal that is not on Reclamation property, a contribution to the Placer County Tree Preservation Fund shall be required. The value is based on 50% of the overall replacement estimate, which shall be submitted to the Placer County Development Review Committee (DRC) for review and approval.

3. The trees shall be installed by the contractor and inspected and approved by Placer County DPW before completion of the project. At its discretion, the DRC may establish an alternate deadline for installation of replacement trees if weather or other circumstances prevent the completion of this requirement before completion of the project.
4. For native trees removed from private lands, Placer County DPW may either:

- replace the trees on the private lands with one 15-gallon native tree for each tree removed or
- contribute money into the Placer County Tree Preservation Fund.

### Mitigation Measure P7.4c: Revegetate and Restore All Disturbed Areas to Minimize Visual Quality Impacts and Provide Screening

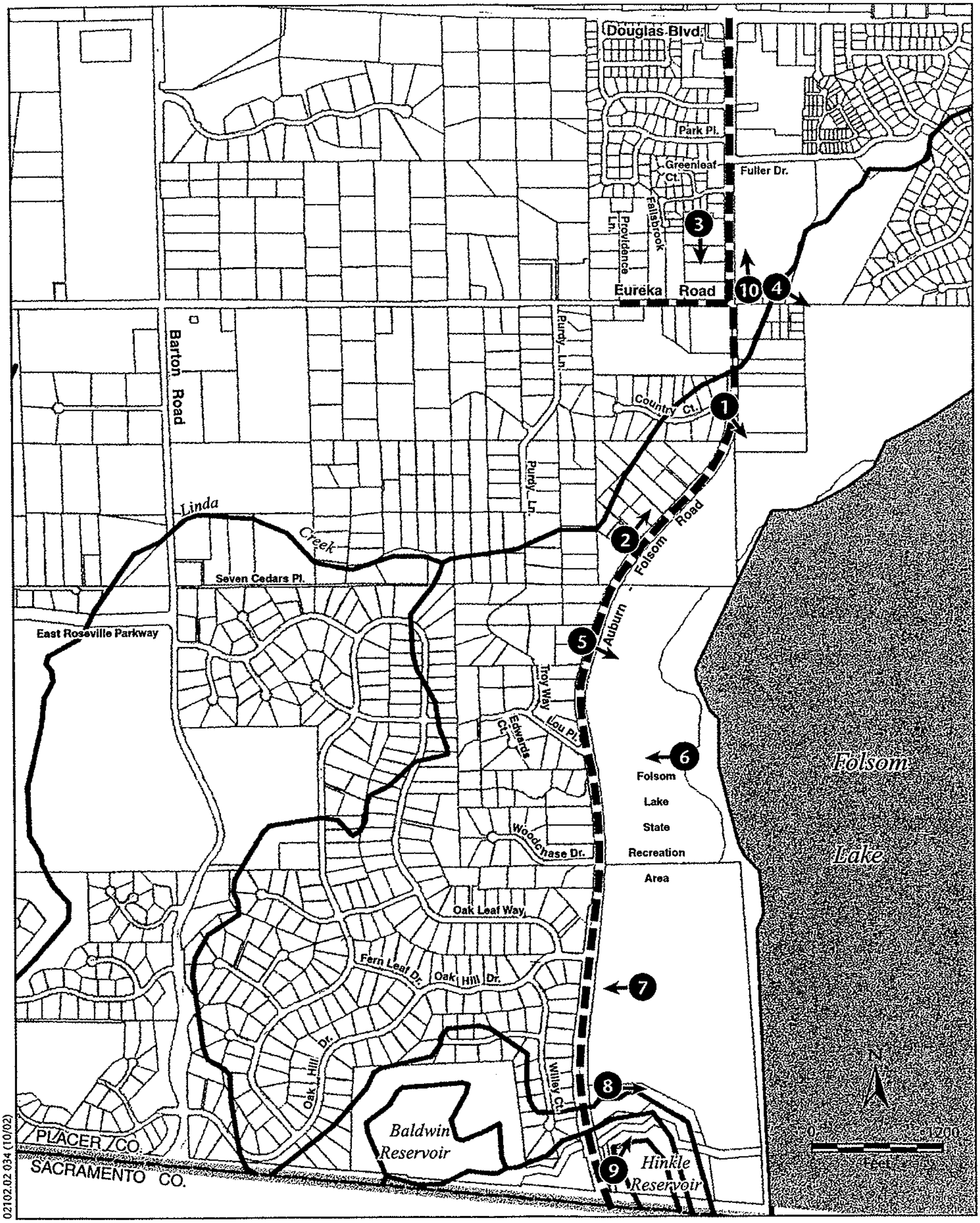
Placer County DPW or an approved contractor shall revegetate and restore all disturbed areas. Revegetation undertaken between April 1 and October 1 shall include regular watering to ensure adequate growth. Restoration of trees and shrubs shall provide the screening for affected properties. Revegetation of disturbed areas shall be consistent with the surrounding area.

The County DPW shall prepare a restoration and revegetation plan for the trees and vegetation removed from Reclamation property. This plan shall address the mitigation of the removal of oaks and other trees from Reclamation property. The plan shall be prepared in consultation with Reclamation and shall provide screening to mitigate the increased visibility of the roadway from recreation facilities (campgrounds and trails).

### Mitigation Measure P7.5: Enhance Aesthetics of Retaining Walls, Soundwalls, and Other Structural Elements

Placer County DPW shall design and construct the visible surfaces of vertical, linear structural elements, including all retaining walls and soundwalls, to maximize aesthetic appearance and to achieve visual unity with the existing landscape character. The design shall be unified with the existing landscape in terms of color, proportion, texture, and material types and finishes. Design features that may be used to achieve enhanced aesthetics include:

1. horizontal and vertical articulation of linear features to visually break up large masses (e.g., terracing sections of retaining walls or offsetting sections of soundwalls);
2. use of rough-textured surfaces to minimize glare, reduce potential for graffiti, and blend with the rugged appearance of the natural vegetation and rock outcrops;
3. use of native vegetation incorporated into retaining walls and as a screen for other structural elements;
4. use of warm, earthy hues; and
5. consistent architectural detailing among all structural elements to unify the roadway corridor.




Jones & Stokes

**Figure 7-1**
**Project Site and Photograph Locations**

**Photo 1.** Looking southeast across Auburn-Folsom Road, toward the grass-covered earth dike of Folsom Lake. Note the overhead power lines, unimproved shoulders, and naturalistic vegetation.

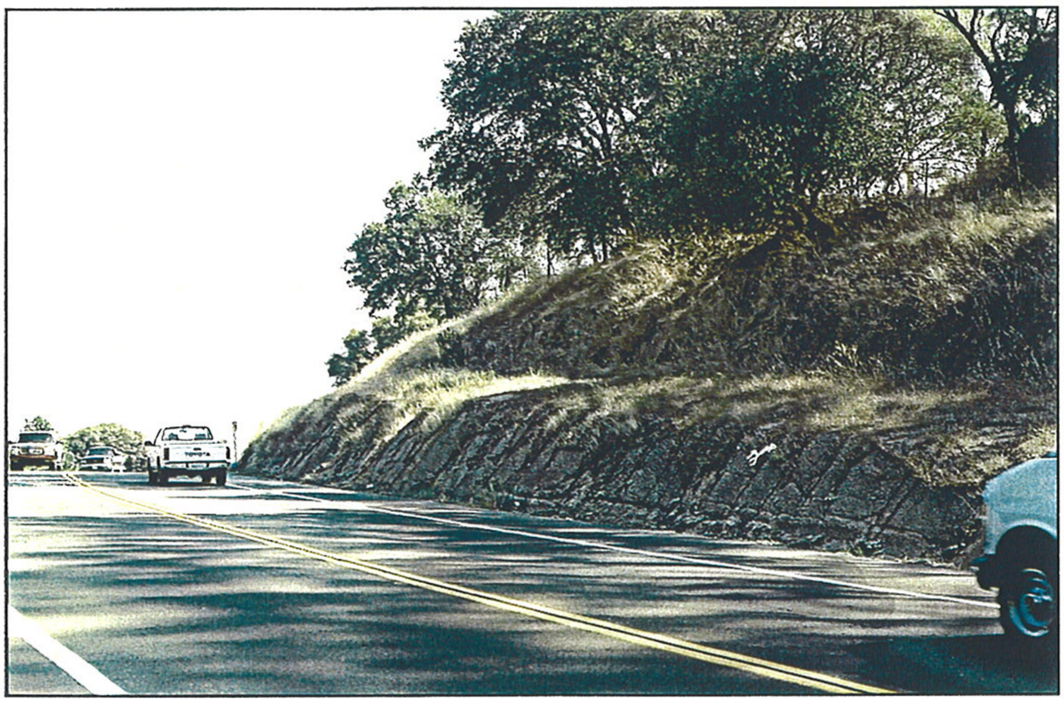


**Photo 2.** Looking northeast across Auburn-Folsom Road. Note the unvegetated road cut.





Figure 7-2
Photographs 1 and 2

**Photo 3.** Looking south at the Whispering Pines Mobile Home Park. Note the proximity of the home to the existing roadway.

**Photo 4.** Residence on east side of project corridor, north of the Folsom SRA. Note the deep setback, the formal fencing style, the naturalistic landscaping, and generally well-maintained appearance.





**Figure 7-3**
**Photographs 3 and 4**

**Photo 5.** Looking southeast from the roadway to the Folsom SRA. Elevated portions of Auburn-Folsom Road allow several such expansive views of the corridor.

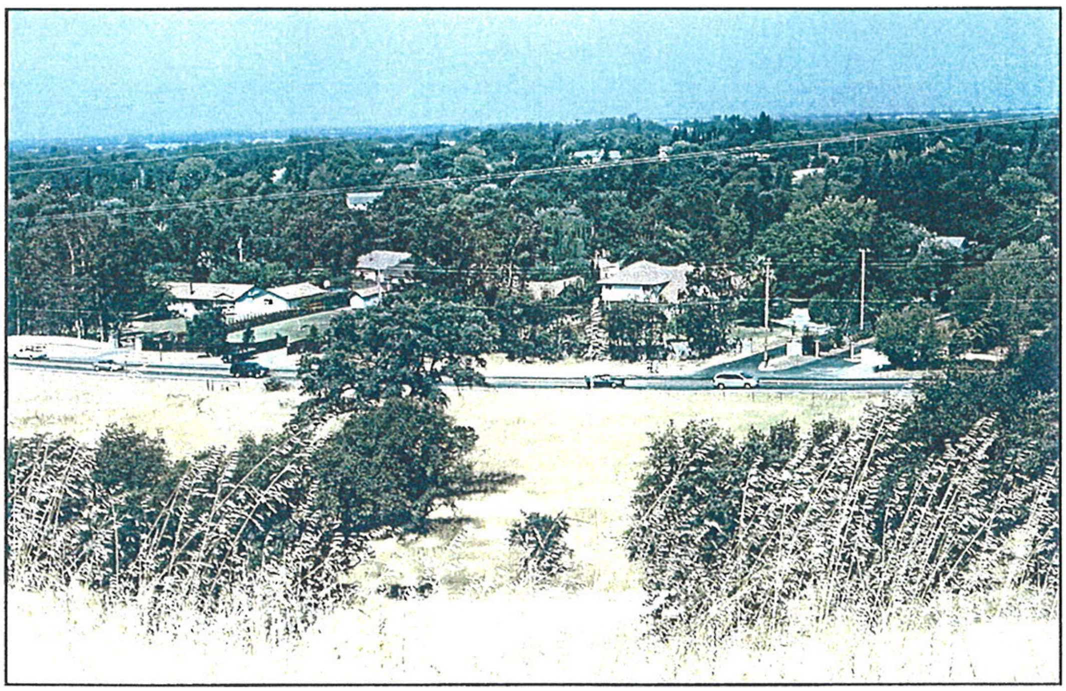


**Photo 6.** Auburn-Folsom Road, as seen from the paved trail on top of the Folsom Lake earth dike. Note overhead utility lines, naturalistic vegetation, and adjacent residences.

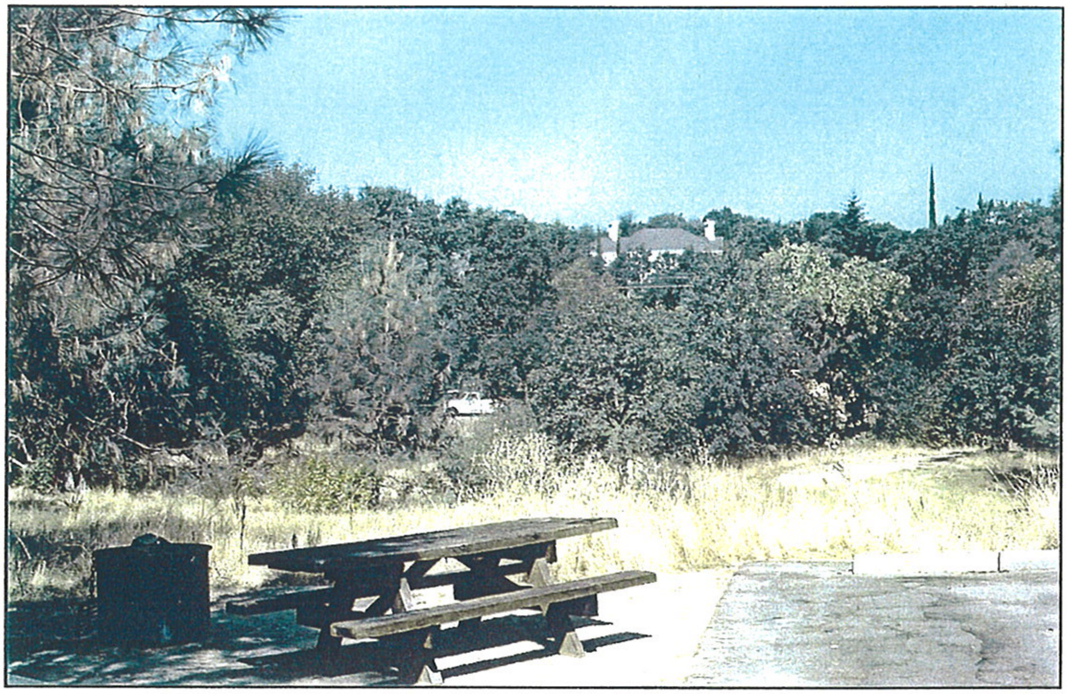


**Photo 7.** Looking west from the RV campground in the Folsom SRA, traffic on Auburn-Folsom Road is visible through the vegetation (as evidenced by white truck).

**Photo 8.** Looking east from the shoulder of Auburn-Folsom Road, near the vehicle entrance to the Folsom SRA. Note the proximity of the recreational trail to the roadway (as evidenced by cyclist).



Figure 7-5
Photographs 7 and 8

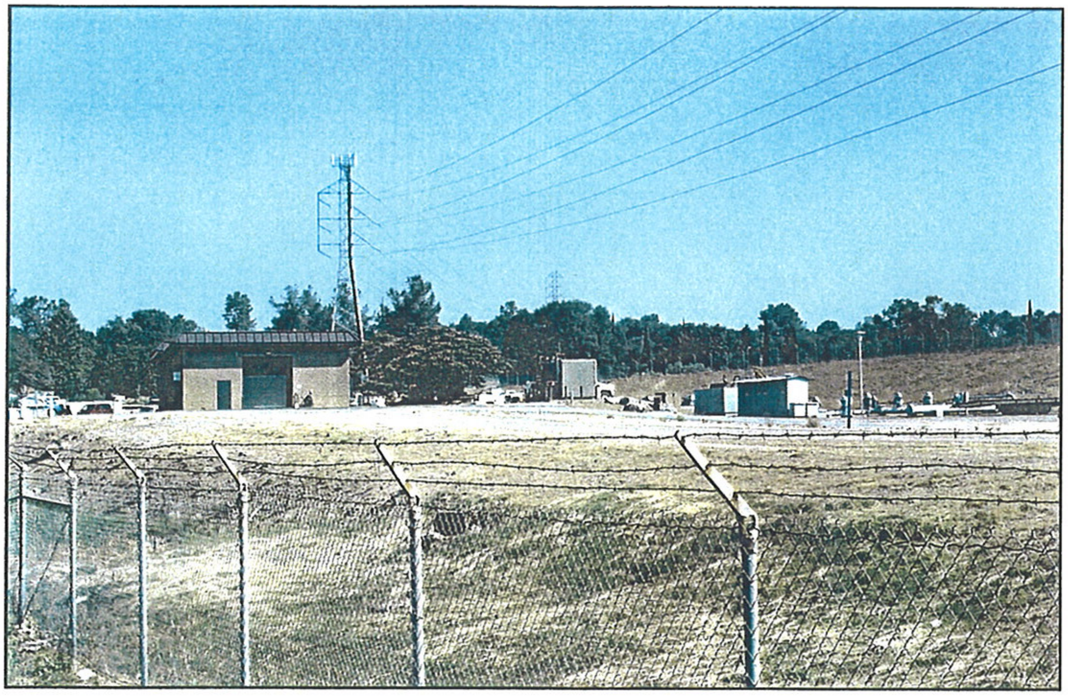


**Photo 9.** The San Juan Water District facility in the southeast portion of the project corridor, viewed from the shoulder of Auburn-Folsom Road. Note the security fencing, overhead utility lines, unvegetated earth, and outbuildings.


**Photo 10.** Looking north at the intersection of Auburn-Folsom Road and Eureka Road. Note the three single-cobra light fixtures on approximately 25-foot-tall masts.

## Recommended Mitigation Measures

There are no recommended aesthetics mitigation measures.

**Table 7-1.** Visual Resources/Aesthetics Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **VISUAL RESOURCES/AESTHETICS** | | | | |
| Impact 7.1 Potential Inconsistency with Local Goals and Policies | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | P7.1a: Preserve Existing Trail Access Points in Project Design<br>P7.1b: Provide Class II Bikeway<br>P7.1c: Revegetate All Disturbed Areas | P7.1a: Preserve Existing Trail Access Points in Project Design<br>P7.1b: Provide Class II Bikeway<br>P7.1c: Revegetate All Disturbed Areas | P7.1a: Preserve Existing Trail Access Points in Project Design<br>P7.1b: Provide Class II Bikeway<br>P7.1c: Revegetate All Disturbed Areas | P7.1a: Preserve Existing Trail Access Points in Project Design<br>P7.1b: Provide Class II Bikeway<br>P7.1c: Revegetate All Disturbed Areas |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 7.2 Temporary Visual Impact Caused by Construction Activities | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 7.3 Degradation of Views and Increase in Glare | | | | |
| Quantitative Comparison | Two homes within 15 feet of new roadway | Zero homes within 15 feet of new roadway | Zero homes within 15 feet of new roadway | Zero homes within 15 feet of new roadway |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P7.3a: Select Street Lights to Minimize Exposure to Glare and Light<br>P7.3b: Construct Fence between | P7.3a: Select Street Lights to Minimize Exposure to Glare and Light | P7.3a: Select Street Lights to Minimize Exposure to Glare and Light | P7.3a: Select Street Lights to Minimize Exposure to Glare and Light |

**Table 7-1.** Visual Resources/Aesthetics Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| | Affected Residences and Roadway | | | |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 7.4 Degradation of Visual Quality Resulting from Tree Removal | | | | |
| Quantitative Comparison | 371 trees removed, 296 are native | 389 trees removed, 359 are native | 364 trees removed, 318 are native | 346 trees removed, 313 are native |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P7.4a: Obtain a Tree Permit<br>P7.4b: Mitigate Tree Removal<br>P7.4c: Revegetate and Restore All Disturbed Areas to Minimize Visual Quality Impacts and Provide Screening | P7.4a: Obtain a Tree Permit<br>P7.4b: Mitigate Tree Removal<br>P7.4c: Revegetate and Restore All Disturbed Areas to Minimize Visual Quality Impacts and Provide Screening | P7.4a: Obtain a Tree Permit<br>P7.4b: Mitigate Tree Removal<br>P7.4c: Revegetate and Restore All Disturbed Areas to Minimize Visual Quality Impacts and Provide Screening | P7.4a: Obtain a Tree Permit<br>P7.4b: Mitigate Tree Removal<br>P7.4c: Revegetate and Restore All Disturbed Areas to Minimize Visual Quality Impacts and Provide Screening |
| Significance After Mitigation | SU | SU | SU | SU |
| Impact 7.5 Degradation of Visual Quality Resulting from Cuts, Grading, and Other Changes in Topography | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | S | S | S |

**Table 7-1.** Visual Resources/Aesthetics Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Mitigation Measures | None required | P7.5: Enhance Aesthetics of Retaining Walls, Soundwalls, and Other Structural Elements | P7.5: Enhance Aesthetics of Retaining Walls, Soundwalls, and Other Structural Elements | P7.5: Enhance Aesthetics of Retaining Walls, Soundwalls, and Other Structural Elements |
| Significance After Mitigation | LS | LS | LS | LS |

Key:

SU = Significant and unavoidable.

S = Significant.

PS = Potentially significant.

LS = Less than significant.

NI = No impact.

NA = Not applicable.

Chapter 8
# Biological Resources

This chapter provides information on biological resources located in the project area. A discussion of federal, state, and local laws, policies, and regulations that influence biological resources is also presented in this chapter. Impacts on biological resources that may result from the project are identified, and mitigation measures to avoid, minimize, and compensate for potential significant impacts on biological resources are described.

# Affected Environment

## Environmental Setting

### Methods

The methods used to identify biological resources in the study area comprised a prefield investigation, coordination with the resource agencies, and field surveys. Each of these elements is described in this section.

#### Prefield Investigation and Coordination with Resource Agencies

To prepare for the field surveys, biologists reviewed existing resource information related to the project area and coordinated with resource agencies to evaluate whether special-status species or their habitats could occur in the project area. Pertinent sources reviewed were:

- a California Natural Diversity Database (CNDDB) records search for the Folsom, Clarksville, Citrus Heights, Pilot Hill, Rocklin, Roseville, Carmichael, Buffalo Creek, and Folsom 7.5-minute U.S. Geological Survey (USGS) quadrangles (California Natural Diversity Database 2002) (Appendix O);
- the California Native Plant Society's (CNPS's) 2002 Inventory of Rare and Endangered Plants of California;

- a U.S. Fish and Wildlife Service (USFWS) list of special-status species (Appendix G);
- the tree inventory and assessment arborist report (Sierra Nevada Arborists 2002) (Appendix L);
- the Placer County General Plan (adopted 1994);
- the Granite Bay Community Plan (adopted 1989);
- the California Department of Parks and Recreation's 1979 Resource Inventory Report Auburn-Folsom Project, Volume One: Natural Resources; and
- discussions with state and federal resource agencies (Holly pers. comm., Douglas pers. comm.).

This information was used to develop lists of special-status species and other sensitive biological resources that could be present in the region. Species were included in these lists if they were known to occur in the project region and if their habitats could be located in the project vicinity. There is no suitable habitat for special-status fish in the project area; therefore, these species are not addressed in this EA/Draft EIR. Linda Creek is the only perennial stream in the study area that could support special-status fish, but fish passage is obstructed by a dam on the Granite Bay Golf Course.

## Field Surveys

Biological surveys were conducted between March and August 2002 by Jones & Stokes biologists (see Table 8-1 for specific dates). For the purpose of this environmental document, the study area was defined based on the project boundaries and including an additional 30.5 meters (100 feet) beyond the project boundaries, from the edge of the pavement or up to a private property fence. Fenced residential yards were not surveyed as part of this study because they were not readily accessible during the surveys. Also, these residential areas did not appear to support suitable habitat for special-status species because they were largely dominated by landscape species.

**Table 8-1.** Biological Resource Survey and Wetland Delineation Dates

| Survey Date | Survey Purpose |
|---|---|
| March 15, 2002 | Reconnaissance-level survey |
| April 3, and May 2 and 3, 2002 | Botanical surveys |
| May 22, 24, and 29, and July 11, 2002 | Habitat assessment and biological surveys to document biological resources and to determine the occurrence or potential for special-status wildlife to occur in the study area |
| May 31 and August 9, 2002 | Wetland delineation |

The purpose of the biological field surveys was to:

- characterize biological communities and their associated wildlife habitat uses;
- document common and special-status wildlife species;
- identify and characterize habitat for special-status wildlife species;
- document special-status plants;
- delineate waters of the United States, including wetlands, that would be subject to federal regulations; and
- provide biological resource information to the Placer County DPW early in the project design phase for designing the project alternatives.

Methods and terms used to document special-status species and waters of the United States (including wetlands) are described below. A tree inventory and assessment was conducted by Sierra Nevada Arborists and is included as Appendix L.

## Special-Status Species

Special-status species are defined as:

- species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) (Title 50, Code of Federal Regulations [CFR], Section 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register [FR] for proposed species);
- species that are candidates for possible future listing as threatened or endangered under ESA (67 FR 40657, June 13, 2002);
- species that are federal species of concern (i.e., former USFWS C1 or C2 candidates);
- species that are listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (Title 14, California Code of Regulations [CCR], Section 670.5);
- plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code, Section 1900 et seq.);
- plants considered by CNPS to be "rare, threatened, or endangered in California";
- species that meet the definitions of rare or endangered under the State CEQA Guidelines, Section 15380; and
- animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

### Special-Status Plant Surveys

Jones & Stokes botanists conducted botanical surveys between March and May 2002 to locate special-status plants identified as having the potential to occur in the study area (Table 8-2). Botanical surveys were conducted according to California Department of Fish and Game (DFG) and CNPS Botanical Survey Guidelines (California Native Plant Society 2002). The guidelines are intended to determine when a botanical survey is needed, who should be considered qualified to conduct such surveys, how surveys should be conducted, and what information should be contained in the survey report.

During the field surveys, all plants were identified to the level necessary to determine whether they qualified as special-status plants or were plant species with unusual or significant range extensions. In general, survey intensity varied depending on species richness, habitat type and quality, and the probability of special-status plants occurring in a particular habitat type. The botanists walked meandering transects through the study area and conducted more focused surveys in areas with the greatest potential for special-status plants to grow (e.g., open annual grassland and oak woodland communities). Surveys coincided with the identification periods of all of the special-status plants identified in Table 8-2.

### Special-Status Wildlife Surveys

A Jones & Stokes wildlife biologist conducted a habitat-based field assessment to determine the presence, distribution, and amount of habitat capable of supporting special-status species identified as having potential to occur in the study area (Table 8-3). Field surveys were conducted on May 22, 24, and 29, 2002, and on July 11, 2002, by walking meandering transects through the study area. The biologist noted each habitat type present and evaluated it for potential to support special-status species.

In addition, several blue elderberry shrubs, which are the host plant for valley elderberry longhorn beetle (VELB) were located in the study area. VELB is listed as threatened under ESA. During the field surveys listed above, the biologist counted the number of elderberry stems considered suitable for VELB on each elderberry shrub and looked for the presence of exit holes on the stems, in accordance with the survey protocol established by USFWS (1999). The methods used to identify VELB and the results of field surveys are documented in a biological assessment (BA) for VELB (Appendix J). The BA will be submitted by Reclamation to USFWS to comply with Section 7 of ESA (16 United States Code [USC] 1536).

## Delineation of Waters of the United States (Including Wetlands)

*Waters of the United States* is the encompassing term for areas under federal jurisdiction under Section 404 of the federal Clean Water Act. For the purpose of this analysis, waters of the United States are categorized as either *wetlands* or *other waters of the United States*. Wetlands are defined as "areas that are inundated or saturated by surface or groundwater at a frequency and duration

**Table 8-2.** Special-Status Plants Documented within the Study Area



| Common Name | Scientific Name | Legal Status[a] Federal | State | CNPS | Geographic Distribution | Habitat Requirements | Blooming Period | Potential[b] to Occur in the Study Area[c] |
|---|---|---|---|---|---|---|---|---|
| Big-scale balsamroot | *Balsamorhiza macrolepis* var. *macrolepis* | – | – | 1B | San Francisco Bay region, Sierra Nevada foothills, Coast Ranges, eastern Cascade Ranges, and Sacramento Valley | Rocky annual grassland and fields and foothill woodland hillsides; sometimes on serpentine; below 1,402 meters (4,600 feet) | March–June | Moderate |
| Stebbin's morning-glory | *Calystegia stebbinsii* | E | E | 1B | Northern Sierra Nevada foothills and El Dorado and Nevada Counties | Chaparral or woodland; on serpentine or gabbro; generally ± 305 meters (1,000 feet) | May–June | None |
| Pine Hill ceanothus | *Ceanothus roderickii* | E | R | 1B | Northern Sierra Nevada foothills, Pine Hill, and El Dorado County | Chaparral or woodland; often on serpentine or gabbro soils; 300–610meters (980–2,000 feet) | May–June | None |
| Red Hills soaproot | *Chlorogalum grandiflorum* | SC | – | 1B | Northern and central Sierra Nevada foothills and Amador, Placer, El Dorado, and Tuolumne Counties | Chaparral and foothill pine-blue oak woodland; on serpentine or gabbro soils; 305–503 meters (1,000–1,650 feet) | May–June | None |
| Brandegee's clarkia | *Clarkia biloba* ssp. *brandegeae* | – | – | 1B | Northern Sierra Nevada foothills | Foothill woodland; below approximately 455 meters (1,500 feet) | May–July | Low |
| Hispid bird's-beak | *Cordylanthus mollis* ssp. *hispidus* | SC | – | 1B | Central Valley and Alameda, Kern, Merced, Placer, and Solano Counties | Meadow, grassland, or playa; on alkaline soils; below 152 meters (500 feet) | June–September | None |
| El Dorado bedstraw | *Galium californicum* ssp. *sierrae* | E | R | 1B | El Dorado County | Chaparral, woodland, or lower montane coniferous forest; on gabbro soils; 91–503 meters (330–1,650 feet) | May-June | None |
| Bogg's Lake hedge-hyssop | *Gratiola heterosepala* | – | E | 1B | Inner north Coast Ranges, Central Sierra Nevada foothills, Sacramento Valley and Modoc Plateau, and Fresno, Lake, Lassen, Madera, Modoc, Placer, Sacramento, Shasta, San Joaquin, Solano, and Tehama Counties | Clay soils in areas of shallow water, lake margins, and vernal pool margins | April–June | None |
| Bisbee Peak rush-rose | *Helianthemum suffrutescens* | – | – | 3 | Amador, Calaveras, El Dorado, Sacramento, and Tuolumne Counties | Chaparral openings; often on serpentine, gabbro, or Ione soils; below 1,524 meters (5,000 feet) | April–May | None |

**Table 8-2.** Continued



| Common Name | Scientific Name | Legal Status[a] | | | Geographic Distribution | Habitat Requirements | Blooming Period | Potential[b] to Occur in the Study Area[c] |
|---|---|---|---|---|---|---|---|---|
| | | Federal | State | CNPS | | | | |
| Ahart's dwarf rush | *Juncus leiospermus* var. *ahartii* | SC | – | 1B | Eastern Sacramento Valley, northeastern San Joaquin Valley, and Butte, Calaveras, Placer, Sacramento, and Yuba Counties | Vernal pool margins; 30.5–100 meters (100–330 feet) | March–May | None |
| Legenere | *Legenere limosa* | SC | – | 1B | Lower Sacramento Valley (primary location); also north Coast Ranges, northern San Joaquin Valley, and Santa Cruz Mountains. | Deep, seasonally wet habitats, such as vernal pools, ditches, marsh edges, and river banks; below 152 meters (500 feet) | May–June | None |
| Pincushion navarretia | *Navarretia myersii* a.k.a. *N.m.*ssp. *m.* | – | – | 1B | Central Valley and Amador, Lake, Merced, and Sacramento Counties | Edges of vernal pools; 18–91 meters (60–300 feet) | May | None |
| Sacramento Orcutt grass | *Orcuttia viscida* | E | E | 1B | Endemic to Sacramento County | Vernal pools; below 100 meters (330 feet) | May–June | None |
| Layne's butterweed or ragwort | *Senecio layneae* | T | R | 1B | Northern Sierra Nevada foothills and El Dorado and Tuolumne Counties | Chaparral and foothill woodland; on rocky serpentine or gabbro soils; 201–1,005 meters (660–3,300 feet) | April–July | None |
| El Dorado County mule ears | *Wyethia reticulata* | SC | – | 1B | Endemic to El Dorado County | Chaparral, woodland, and lower montane coniferous forest; on clay or gabbro soils; 305–500 meters (1,000–1,640 feet) | May–July | None |

Note: CNPS = California Native Plant Society.

[a] Status explanations:

– = no listing.

**Federal**

E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
SC = species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking.

**Table 8-2.** Continued



**State**

E = listed as endangered under the California Endangered Species Act.
R = listed as rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.
– = no listing.

**California Native Plant Society**

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
3 = List 3 species: plants about which more information is needed to determine their status.

[b] Definitions of levels of potential occurrence:

Moderate: California Natural Diversity Database or other documents record the known occurrence of the species in the vicinity of the project, or the presence of suitable habitat conditions, but the area lacks suitable microhabitat conditions.

Low: California Natural Diversity Database or other documents do not record the occurrence of the species in the vicinity of the project, or the habitat conditions in the area are of poor quality.

None: California Natural Diversity Database or other documents do not record the occurrence of the species in the vicinity of the project, or suitable habitat is not present in any condition.

[c] The study area is the area within a 16-kilometer (10-mile) radius of the Auburn-Folsom Road Project.

**Table 8-3.** Special-Status Wildlife Documented within the Study Area



| Common Name | Scientific Name | Legal Status[a] | | Distribution | Habitat | Potential to Occur in the Study Area[b] |
|---|---|---|---|---|---|---|
| | | Federal | State | | | |
| **Invertebrates** | | | | | | |
| Valley elderberry longhorn beetle | *Desmocerus californicus dimorphus* | T | – | Streamside habitats below 914 meters (3,000 feet) throughout the Central Valley and foothills of the Sierra Nevada and extending as far north as the Shasta/Tehama County line | Riparian and oak savanna habitats with elderberry shrubs; elderberries are host plant | High; several elderberry shrubs are present at or within 30.5 meters (100 feet) of the project corridor; the closest CNDDB record occurs 1.6 kilometers (1.0 mile) east of the project corridor |
| Vernal pool fairy shrimp | *Branchinecta lynchi* | T | – | Central Valley and central and south Coast Ranges from Tehama County to Santa Barbara County; isolated populations also in Riverside County | Common in vernal pools; also found in sandstone outcrop pools | None; closest CNDDB records exist approximately 6.4 kilometers (4 miles) from the project corridor; no vernal pools or other ephemeral water sources were observed at or within 76 meters (250 feet) of the project corridor |
| Vernal pool tadpole shrimp | *Lepidurus packardi* | E | – | Shasta County south to Merced County | Vernal pools and ephemeral stock ponds | None; closest CNDDB records exist approximately 9.7 kilometers (6 miles) from the project corridor; however, no vernal pools or other ephemeral water sources were observed at or within 76 meters (250 feet) of the project corridor |
| Midvalley fairy shrimp | *Branchinecta mesovallensis* | P | – | Fresno, Madera, Merced, Sacramento, San Joaquin, and Solano Counties | Vernal pools | None; no CNDDB records exist within the study area, and no vernal pools or other ephemeral water sources were observed at or within 76 meters (250 feet) of the project corridor |

**Table 8-3.** Continued



| Common Name | Scientific Name | Legal Status[a] Federal | State | Distribution | Habitat | Potential to Occur in the Study Area[b] |
|---|---|---|---|---|---|---|
| **Amphibians** | | | | | | |
| California red-legged frog | *Rana aurora draytoni* | T | SSC | Coast and coastal mountain ranges from Humboldt County to San Diego County; Sierra Nevada (midelevations, above 305 meters [1,000 feet], from Butte County to Fresno County) | Permanent and semipermanent aquatic habitats, such as creeks and cold water ponds, with emergent and submergent vegetation and riparian species along the edges; may estivate in rodent burrows or cracks during dry periods | None; no CNDDB records exist in the study area, and the species is believed to be extirpated from the project vicinity; no suitable ponds or breeding areas are present in the project corridor, and Linda Creek in the study area does not provide a migration corridor |
| California tiger salamander | *Ambystoma tigrinum californiense* | C | SSC | Central Valley, including Sierra Nevada foothills, up to approximately 305 meters (1,000 feet), and coastal region from Butte County south to northeastern San Luis Obispo County | Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy | None; no CNDDB records exist within the study area; no suitable aquatic habitat is present at or within 76 meters (250 feet) of the project corridor |
| Western spadefoot toad | *Scaphiopus hammondii* | SC | SSC | Sierra Nevada foothills, Central Valley, Coast Ranges, and coastal counties in southern California | Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands | None; closest CNDDB records exist approximately 8.0 kilometers (5 miles) east of the project corridor; however, suitable aquatic habitat is not present at or within 76 meters (250 feet) of the project corridor |
| **Reptiles** | | | | | | |
| Northwestern pond turtle | *Clemmys marmorata marmorata* | SC | SSC | From Oregon border of Del Norte and Siskiyou Counties south along coast to San Francisco Bay, inland through Sacramento Valley, and on western slope of Sierra Nevada; range overlaps with that of southwestern pond turtle through the Delta and Central Valley to Tulare County | Woodlands, grasslands, and open forests; occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and aquatic vegetation, such as watercress, cattails, and water lilies | Moderate; closest CNDDB record occurs at Baldwin Reservoir approximately 0.32 kilometer (0.2 mile) east of the project corridor |

**Table 8-3.** Continued



| Common Name | Scientific Name | Legal Status[a] | | Distribution | Habitat | Potential to Occur in the Study Area[b] |
|---|---|---|---|---|---|---|
| | | Federal | State | | | |
| Giant garter snake | *Thamnophis gigas* | T | T | Central Valley from Fresno north to the Gridley/Sutter Buttes area; has been extirpated from areas south of Fresno | Sloughs, canals, and other small waterways with a prey base of small fish and amphibians; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter | None; no CNDDB records exist within the study area; the project corridor is not within the current range of this species |
| **Birds** | | | | | | |
| Bald eagle | *Haliaeetus leucocephalus* | T | E | Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin; reintroduced into central coast; winter range includes most of California, except southeastern deserts, very high altitudes in the Sierras, and east of Sierra Nevada south of Mono County; range expanding | Nests and roosts in coniferous forests within 1.6 kilometers (1 mile) of a lake, a reservoir, a stream, or the ocean | Moderate; winter visitor in the study area; Folsom Lake provides potential foraging habitat for this species; however, bald eagles do not nest in Placer County and would not be affected by tree removal activities |
| American peregrine falcon | *Falco peregrinus anatum* | D | E | Permanent resident in northern and southern Coast Ranges; may summer in Cascade and Klamath Ranges south through the Sierra Nevada to Madera County; winters in the Central Valley south through the Transverse and Peninsular Ranges and plains east of the Cascade Range | Nests and roosts on protected ledges of large cliff faces and on humanmade structures, such as large buildings and bridges; habitats vary, including wetlands, woodlands, other forested areas, agricultural areas, coastal habitats, and urban areas that support large populations of other bird species | Low; potential winter visitor; no suitable nesting habitat at the project site |

**Table 8-3.** Continued



| Common Name | Scientific Name | Legal Status[a] | | Distribution | Habitat | Potential to Occur in the Study Area[b] |
|---|---|---|---|---|---|---|
| | | Federal | State | | | |
| White-tailed kite | *Elanus caeruleus* | – | FP | Lowland areas west of Sierra Nevada from head of Sacramento Valley south, including coastal valleys and foothills, to western San Diego County at the Mexico border | Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging | Moderate; suitable nesting habitat present in woodland areas in the project corridor |
| Cooper's hawk | *Accipiter cooperii* | – | SSC | Throughout California, except high altitudes in the Sierra Nevada; winters in the Central Valley, southeastern desert regions, and plains east of the Cascade Range; permanent residents occupy the rest of the state | Nests primarily in riparian forests dominated by deciduous species; also nests in densely canopied forests from grey pine–oak woodland up to ponderosa pine; forages in open woodlands | Low; closest CNDDB record exists 8.0 kilometers (5 miles) south of the project corridor |
| Swainson's hawk | *Buteo swainsoni* | – | T | Lower Sacramento and San Joaquin Valleys, Klamath Basin, and Butte Valley; the state's highest nesting densities are near Davis and Woodland in Yolo County | Nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures, and grain fields | None; closest nesting record exists approximately 14.5 kilometers (9 miles) east of the project corridor; the project corridor is not within current range of the Swainson's hawk |
| Northern harrier | *Circus cyaneus* | – | SSC | Throughout lowland California; has been recorded in fall at high elevations | Nests and forages in grasslands, meadows, marshes, and seasonal and agricultural wetlands providing tall cover | High; species was observed flying over the project corridor during the field surveys; marginal foraging habitat is available at and adjacent to the project corridor; however, the project corridor does not provide suitable nesting habitat for harriers |
| Western burrowing owl | *Athene cunicularia hypugea* | SC | SSC | Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas; rare along southern coast | Occupies rodent burrows in sparse grassland, desert, and agricultural habitats | None; no CNDDB records exist in the study area |

**Table 8-3.** Continued



| Common Name | Scientific Name | Legal Status[a] Federal | Legal Status[a] State | Distribution | Habitat | Potential to Occur in the Study Area[b] |
|---|---|---|---|---|---|---|
| Tricolored blackbird | *Agelaius tricolor* | SC | SSC | Permanent resident in the Central Valley from Butte County to Kern County; breeds at scattered coastal locations from Marin County south to San Diego County and at scattered locations in Lake, Sonoma, and Solano Counties; rare nester in Siskiyou, Modoc, and Lassen Counties | Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields; habitat must be large enough to support 50 pairs; probably requires water at or near the nesting colony | None; although this species is known to nest in the study area (Holly pers. comm.), no suitable nesting habitat is present in or adjacent to the project corridor |
| Bank swallow | *Riparia riparia* | – | T | Occurs along the Sacramento River from Tehama County to Sacramento County; along the Feather and Lower American Rivers in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast, from San Francisco County to Monterey County | Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam | None; no suitable bank habitat is present in the study area |
| Loggerhead shrike | *Lanius ludovicianus* | – | SSC | Resident and winter visitor in lowlands and foothills throughout California; rare on coastal slope north of Mendocino County, occurring only in winter | Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches | High; species is known to occur in the study area and suitable nesting habitat is present in woodland areas in the project corridor |
| Oak titmouse | *Baeolophus inornatus* | SLC | – | Throughout California, except the extreme northwest coastal region, north-central California, the San Joaquin Valley, and lowlands of the eastern and desert regions | Occupies woodland habitats dominated by oaks, including open broadleaved evergreen forests and riparian woodlands | High; species was observed in woodland habitat during the field surveys |

Notes: CNDDB = California Natural Diversity Database.

Under "Distribution," figures expressed in meters (feet) denote elevations in relation to mean sea level.

[a] Status explanations:

– = no status.

**Table 8-3.** Continued



**Federal**

E = listed as endangered under the federal Endangered Species Act.
T = listed as threatened under the federal Endangered Species Act.
C = species for which the U.S. Fish and Wildlife Service has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list.
SC = species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking.
SLC = species of local concern.
D = delisted under the federal Endangered Species Act.
P = petitioned for listing as threatened or endangered under the federal Endangered Species Act.

**State**

E = listed as endangered under the California Endangered Species Act.
T = listed as threatened under the California Endangered Species Act.
FP = fully protected under the California Fish and Game Code.
SSC = species of special concern in California.

[b] The study area is the area within a 16-kilometer (10-mile) radius of the Auburn-Folsom Road project.

sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b], 40 CFR 230.3). To be considered under federal jurisdiction, a wetland must support positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology. *Other waters of the United States* are seasonal or perennial bodies of water, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark (OHWM) but lack positive indicators for one or two of the three wetland parameters (33 CFR 328.4).

The methods used to delineate waters of the United States (including wetlands) are described in a separate wetland delineation report that will be submitted to the U.S. Army Corps of Engineers (Corps) for verification. This wetland delineation report is provided in Appendix I for reference purposes.

# Biological Communities

The Auburn-Folsom Road project is located in the lower Sierra Nevada foothill region (elevations of 61–122 meters [200–400 feet] above mean sea level) where the predominant land uses are open space, rural residential, agricultural, and commercial. The biological communities and special-status species located in the study area are described below.

Seven biological communities were documented in the study area. Table 8-4 identifies the biological communities and associated acreages documented in the area. Biological communities were identified using the community descriptions in the Placer County General Plan. These descriptions are based on the Wildlife Habitat Relationships (Mayer and Laudenslayer 1988) and natural communities described in Holland (1986). Scientific names of plant and wildlife species mentioned in the text are provided in Appendix H. Waters of the United States (streams, freshwater marsh, and seasonal wetlands) documented in the study area are shown in Figure 8-1.

**Table 8-4.** Biological Communities Located in the Study Area

| | Study Area | |
|---|---|---|
| Biological Community | Hectares | Acres |
| Grassland* | 5.16 | 12.75 |
| Blue oak–foothill pine woodland* | 5.58 | 13.79 |
| Valley foothill riparian forest* | 0.19 | 0.47 |
| Stream* | 0.08 | 0.20 |
| Freshwater marsh | 0.02 | 0.05 |
| Seasonal wetland | 0.11 | 0.27 |
| Landscaped/Ruderal Areas | >2 | >5 |

Note:

* Biological community identified and described in the Placer County General Plan. (Foothill pine was previously known as "digger pine.")

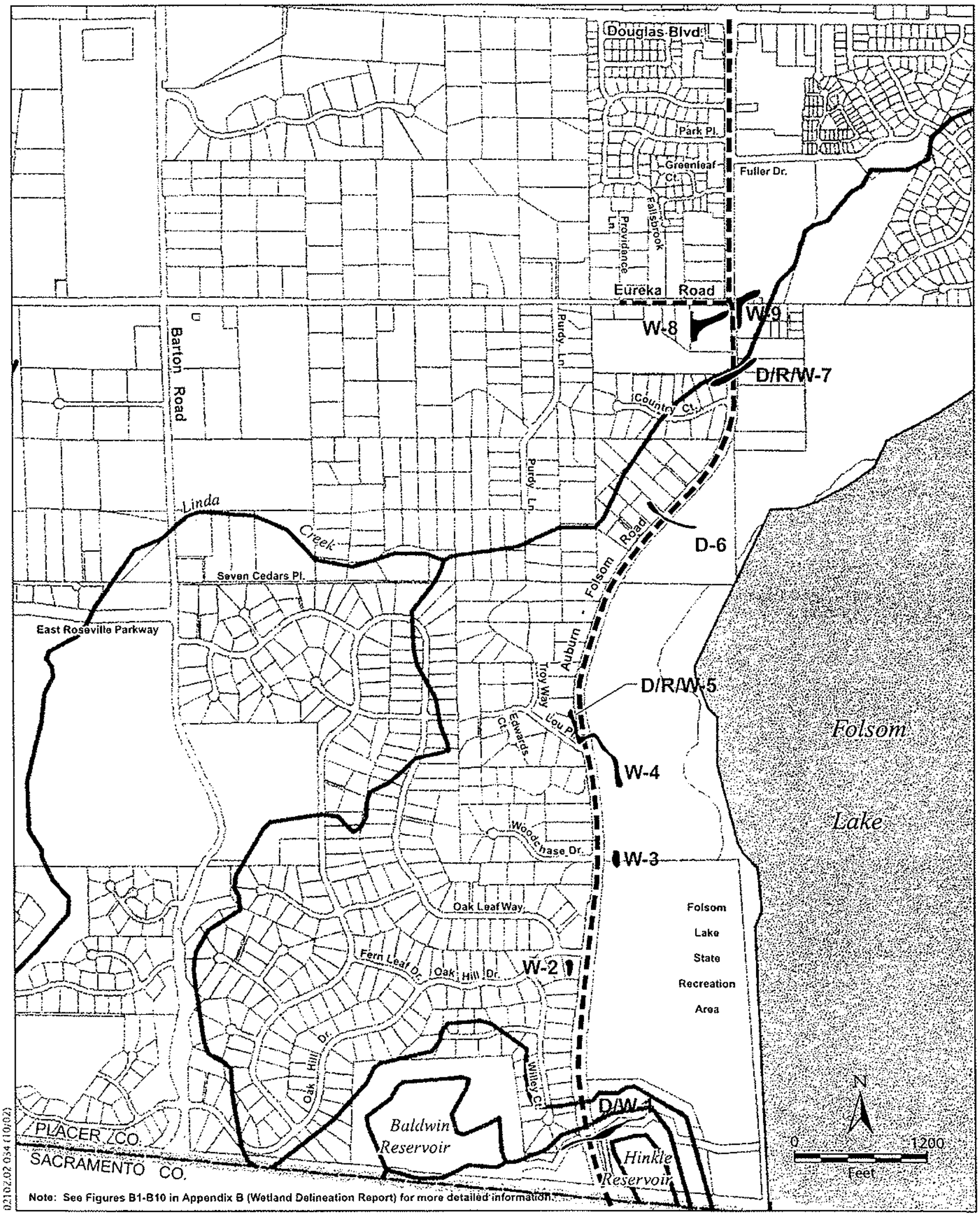
## Grassland

Nonnative annual grassland is a common community that is located throughout the study area, with the largest occurrence on the east side of Auburn-Folsom Road. Nonnative annual grasslands consist of dense to sparse covers of annual grasses that often grow with a variety of showy annual forbs (both native and nonnative). Germination occurs with the onset of the late fall rains; growth, flowering, and seed-set occur from winter through spring; and plants are typically senescent through the summer and fall dry season (Holland 1986). Common plant species are wild oats, bromes, fescue, barbed goatgrass, Italian ryegrass, mustards, filarees, yellow star-thistle, California poppy, and lupines.

Grasslands support insects, amphibians, reptiles, and small birds and mammals that are preyed on by other wildlife, including red-tailed hawks, red-shouldered hawks, northern harriers, American kestrels, great-horned owls, California voles, deer mice, western harvest mice, California ground squirrels, and coyotes. Grasslands near open water and woodland habitats are used by the most wildlife species (compared to other grasslands) because they provide places for resting, breeding, and escape cover. Nonnative annual grassland in the study area is heavily disturbed from roadside activities, which reduces the quality of the habitat for wildlife and decreases the number of different species expected to occur there.

## Blue Oak–Digger Pine Woodland

Blue oak–foothill pine woodland is located throughout the study area. This woodland consists of foothill pines (also referred to as "foothill" or "grey" pines




Jones & Stokes

**Figure 8-1**
**General Location of Potential Waters of the United States Identified in and Adjacent to the Project Site**

in current taxonomic literature) and blue oaks, intermixed with shrubs and with an understory dominated by introduced annuals. Pure stands of either blue oak or foothill pine do occur, but mixed stands are much more common (Holland 1986). In the study area, this oak woodland community is dominated by interior live oak, blue oak, foothill pine, buckeye, interior live oak, blue elderberry, poison oak, coyote bush, and annual grassland species described above. Valley oaks also grow in the oak woodland, along Linda Creek.

Oak woodlands provide high value to wildlife in the form of nesting sites, cover, and food. This community type commonly is used by species that require both woodlands and adjacent open areas, such as annual grasslands. Mammals, such as western gray squirrel and Virginia opossum, are found primarily in the canopy of oak woodlands. Birds associated with oak woodlands include acorn woodpecker, western scrub jay, yellow-billed magpie, American robin, and red-breasted nuthatch. Cavities in oak trees are important nesting sites for American kestrel, tree swallow, house wren, Bewick's wren, and western bluebird. Oak woodlands provide nesting sites for raptors, such as red-tailed hawk, red-shouldered hawk, and great-horned owl, and adjacent open grasslands provide foraging habitat for these species. Oak woodlands also provide an important food source for black-tailed deer, in the form of oak mast.

## Valley Foothill Riparian Forest

Valley foothill riparian forest occurs along Linda Creek and a tributary stream, just south of Linda Creek. *Riparian* is used as a modifier of both wetland and nonwetland habitat types based on the presence of hydrophytic woody vegetation associated with an aquatic feature. Riparian species that characterize drainages and rivers in the study area include Fremont's cottonwood, blue elderberry, valley oak, willows, box elder, Oregon ash, and Himalayan blackberry. Herbaceous ground cover consists of creeping wildrye, sedge species, mugwort, Johnson grass, Bermuda grass, smilo grass, California wild rose, poison oak, and California wild grape.

Because the vegetation is diverse and well developed, riparian communities provide high-value habitat for many wildlife species. The multilayered riparian community provides escape cover, forage, and nesting opportunities for wildlife. Typical wildlife species that use riparian habitats in the plan area are Bewick's wren, song sparrow, black phoebe, red-shouldered hawk, raccoon, striped skunk, California vole, Botta's pocket gopher, and black-tailed deer.

Local, state, and federal agencies recognize riparian communities as sensitive natural communities.

## Stream

The study area contains four streams that are characterized by well-defined beds and banks (Figure 8-1). Three of these streams are natural, and one appears to be artificially created. The natural streams are Linda Creek and two tributary streams. Two of these streams are perennial and support valley foothill riparian forest along their banks, with some inclusions of freshwater marsh and seasonal wetlands in the OHWMs. The third stream is ephemeral and is dominated primarily by annual grassland species.

The artificial stream is a perennial drainage canal at the south end of the study area that feeds into Baldwin Reservoir (Figure 8-1). This canal (herein called the "Baldwin Reservoir canal") supports freshwater marsh and seasonal wetland communities (described below) within its OHWM.

The streams in the study area provide habitat for a variety of wildlife. Birds such as herons and belted kingfishers forage in these communities, primarily along the water's edge. Many species of insectivorous birds, including white-throated swift, barn swallow, cliff swallow, black phoebe, and ash-throated flycatcher, catch their prey over open water. Vegetation growing along the edges of streams provides nesting habitat for several bird species and foraging and refuge habitat for amphibians, reptiles, and mammals occupying the open water and adjacent grassland habitats.

The streams in the study area were delineated as waters of the United States and would be subject to state and federal regulations, including Section 404 of the Clean Water Act.

## Freshwater Marsh

Freshwater marsh is associated with two of the streams in the study area (Figure 8-1). This type of wetland generally is dominated by perennial emergent wetland species (species that grow in wetland conditions more than 99% of the time) that often form a closed canopy and grow in areas that are permanently or seasonally flooded by slow-moving or stagnant fresh water. Freshwater marshes derive water from association with perennial or near-perennial surface water sources, such as overland flow from rivers or other surface water sources; ponded seasonal precipitation; and shallow groundwater tables. Freshwater marshes may be entirely vegetated or partially vegetated with an open water component, or may be dry in the summer months (Holland 1986). Soils of freshwater marshes form as alluvial fans or basin floors associated with fluvial processes. Soils primarily are fine-textured clay, silt loam, or silty clay loam.

Freshwater marsh vegetation is dominated by hydrophytic grasses and grasslike species. Dominant herbaceous hydrophytic vegetation includes hardstem bulrush, broad-leaved cattail, perennial peppergrass, curly dock, Baltic rush, water smartweed, willow smartweed, common scouring rush, and Bermuda grass. Freshwater marshes often support scattered riparian plants such as willows, Fremont's cottonwood, blue elderberry, Himalayan blackberry, and California blackberry.

Freshwater marshes are among the most productive wildlife habitats. They provide food, cover, and water for many species of amphibians, reptiles, birds, and mammals. Pacific treefrogs, western toads, common garter snakes, raccoons, and muskrats use emergent wetlands for foraging, rearing, or cover. Mallards, wood ducks, red-winged blackbirds, common yellowthroats, marsh wrens, and song sparrows also use these habitats for foraging and nesting.

Freshwater marshes in the study area would be considered jurisdictional wetlands by the Corps. This wetland type is recognized as a sensitive natural community by local, state, and federal agencies.

## Seasonal Wetland

Two seasonal wetlands are located in the study area (Figure 8-1). One seasonal wetland is at the southwest corner of the Auburn-Folsom Road/Eureka Road intersection; the other is located at the southwest corner of the Auburn-Folsom Road/Oak Hill Road intersection (Figure 8-1). In general, seasonal wetlands develop in depressions in areas with a water table that is perched near the surface by bedrock or an impermeable soil horizon, such as a claypan or hardpan. Seasonal wetlands are inundated during the winter rainy season (generally between December and March) and are dry during the intervening months. Seasonal wetlands in the study area have seasonal wetland hydrology similar to that of vernal pools but lack the typical vernal pool flora. Seasonal wetlands in the study area support rabbit's-foot grass, spikerush, Italian ryegrass, curly dock, cocklebur, Mediterranean barley, and Harding grass.

Seasonal wetlands support a variety of invertebrates and amphibians (e.g., western toad, Pacific treefrog, and western terrestrial garter snake) that, in turn, provide food for many other wildlife species, such as great blue heron, great egret, mallard, American avocet, killdeer, and greater yellowlegs. Seasonal wetlands in the study area are dominated by emergent vegetation and do not provide suitable habitat for invertebrate species typically found in vernal pools.

One of the seasonal wetlands (W-8) would most likely be considered jurisdictional wetlands by the Corps and subject to regulation under Section 404 of the Clean Water Act. The second wetland (W-2) was determined to be isolated and not subject to Corps regulations (see the wetland delineation report in Appendix I). Regardless of Corps jurisdiction, local, state, and federal agencies recognize seasonal wetlands as sensitive natural communities.

## Landscaped/Ruderal Areas

Landscaped/ruderal areas are located along both sides of the Auburn-Folsom Road corridor. This community type consists of landscaping and ruderal (weedy) areas associated with the San Juan Water District property, private residential properties, and commercial properties along both sides of Auburn-Folsom Road.

Common plant species found in this community are wild oats, bromes, fescue, ryegrass, mustards, filarees, and yellow star-thistle.

Because landscaped and ruderal areas typically are disturbed on a regular basis by human activity, they provide low-quality habitat for wildlife. Wildlife species commonly found in ruderal and disturbed areas include western meadowlark, Brewer's blackbird, American goldfinch, white-crowned sparrow, yellow-billed magpie, mourning dove, Virginia opossum, and black-tailed hare. American kestrels and red-tailed hawks frequently forage in this habitat.

## Special-Status Species

### Special-Status Plants

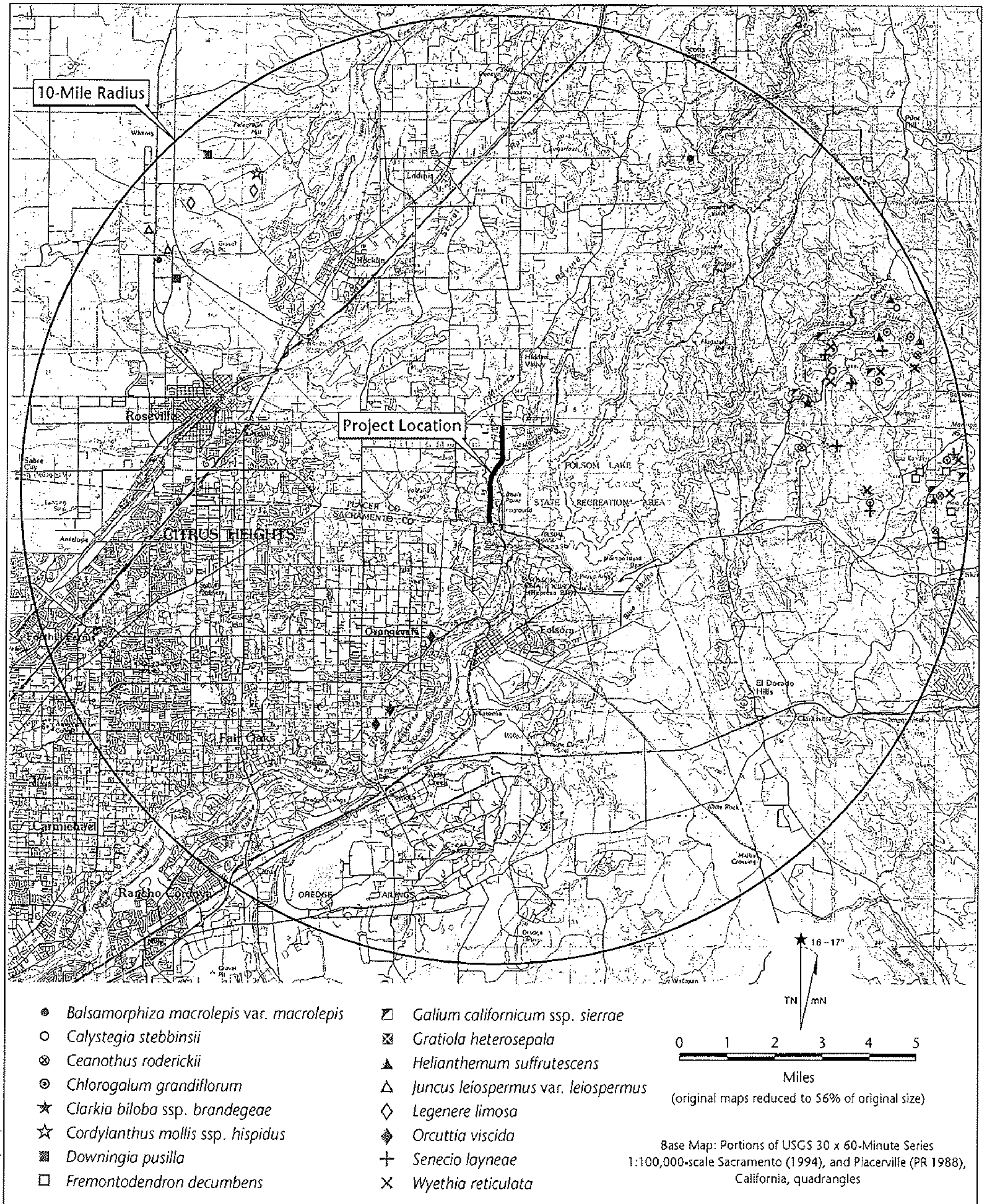
A 16-kilometer (10-mile) radius around the study area was the basis of a database search (California Natural Diversity Database 2002), the purpose of which was to identify special-status plants that had been documented in the region. This search identified 16 special-status plants as having been identified previously in the 16-kilometer (10-mile) radius area (Figure 8-2a). Most of these species have specific microhabitat requirements that are not present in the study area (e.g., vernal pools and serpentine soils).

One special-status plant, big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), was identified during the prefield investigation as having a moderate potential to occur in the study area because suitable habitat conditions are present. This species typically grows in woodlands and grasslands at elevations below 1,400 meters (4,600 feet) above mean sea level. Although the study area contains suitable habitat for big-scale balsamroot, this special-status plant and other species (identified in Table 8-2) have not been reported previously in the region and were not located during the spring and early summer botanical surveys.

### Special-Status Wildlife

Based on a review of existing information (including a search of the CNDDB [2002]), species lists obtained from the USFWS (Appendix G), and species distribution and habitat requirements data, 20 special-status wildlife species were identified as having the potential to occur in the study area (Table 8-3). Also, non-special-status migratory birds and raptors could nest in the project area. Although these species are not considered special-status wildlife species, their occupied nests and eggs are protected by Sections 3503 and 3503.5 of the California Fish and Game Code and the federal Migratory Bird Treaty Act (MBTA).

The CNDDB (2002) search conducted for the project indicated that 10 special-status wildlife species (VELB, vernal pool fairy shrimp, vernal pool tadpole shrimp, western spadefoot toad, northwestern pond turtle, bank swallow,

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Jones & Stokes

**Figure 8-2a**
**Records of Special-Status Plant Species within 10 Miles of the Auburn-Folsom Road Widening Project**

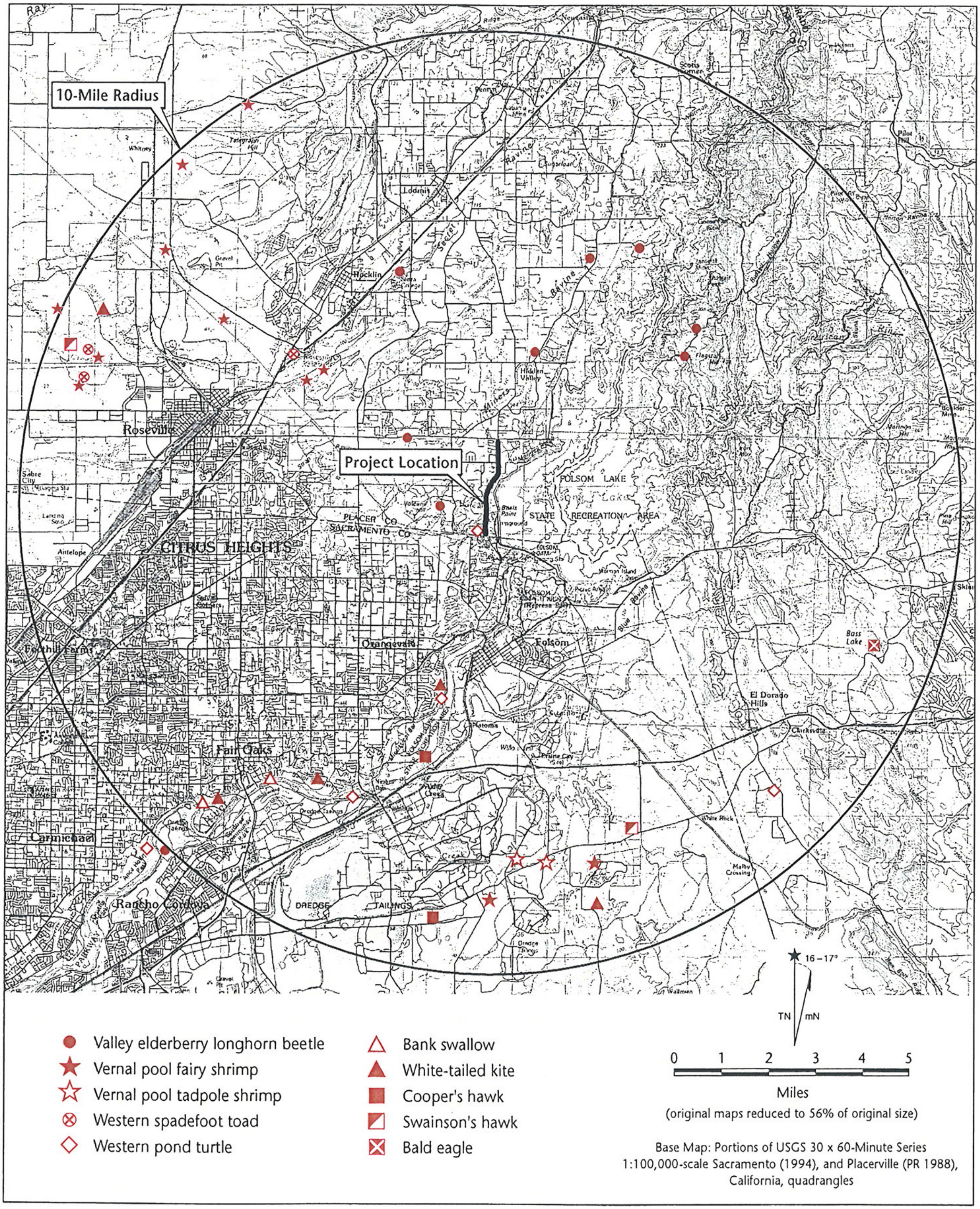


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**Figure 8-2b**
**Records of Special-Status Wildlife Species within 10 Miles of the Auburn-Folsom Road Widening Project**

Swainson's hawk, Cooper's hawk, white-tailed kite, and bald eagle) have been observed within 16 kilometers (10 miles) of the project site. The approximate locations of these recorded observations are depicted on Figure 8-2b.

Of the 20 special-status wildlife species listed in Table 8-3, nine species (VELB, northwestern pond turtle, bald eagle, American peregrine falcon, Cooper's hawk, white-tailed kite, northern harrier, loggerhead shrike, and oak titmouse) were determined to have a low to high potential to occur in the study area on the basis of existing information and the presence of suitable habitat conditions in the area. A description of each of these nine species and their preferred habitat is provided below.

The remaining 11 wildlife species (vernal pool fairy shrimp, vernal pool tadpole shrimp, midvalley fairy shrimp, California red-legged frog, California tiger salamander, western spadefoot toad, giant garter snake, Swainson's hawk, western burrowing owl, bank swallow, and tricolored blackbird) were eliminated from further consideration because suitable habitat for these species is not present in the study area or because the species range does not extend into the study area. A brief explanation for the absence of these species and their habitats is provided in Table 8-3.

### Valley Elderberry Longhorn Beetle

VELB is designated as threatened by USFWS. These beetles occur from as far south as Kern County to as far north as Shasta County (U.S. Fish and Wildlife Service 1999). The majority of specimens and recorded observations appear to be from the Sacramento/Davis area (Linsley and Chemsak 1972).

VELB occurs primarily along riparian corridors in areas containing its host plant, the blue elderberry (*Sambucus mexicanus*). The larvae of VELB bore through elderberry stems and trunks that are thicker than 2.5 centimeters (1 inch) in diameter. The greatest activity appears to be in areas where the riparian corridor also maintains a complement of other riparian woody plant species, such as willow, cottonwood, wild grape, and boxelder.

Numerous CNDDB (2002) observations for VELB have been recorded in the project vicinity; the closest recorded observation of VELB occurred approximately 1.6 kilometers (1 mile) east of the project area (California Natural Diversity Database 2002). During the prefield investigation, Jones & Stokes determined that there was a high potential for VELB to occur in the study area based on the presence of suitable habitat in the area and the close proximity of recorded sightings.

During the field surveys, nine elderberry shrubs were found in the study area. The distribution of elderberry shrubs along the project alignment was plotted on a topographic map of the project area using a global positioning system (GPS). For the exact location of individual shrubs, please see the BA (Appendix J). Table 8-5 lists the number of stems that were counted for each elderberry shrub located in the area. As indicated in Table 8-5, no VELB or exit holes were found in any of the elderberry shrub stems during the field survey, and none of the elderberry shrubs occurs in riparian habitat. All elderberry shrubs in the study area grow in blue oak–foothill pine woodland.

**Table 8-5.** Summary of Stem Counts for Elderberry Shrubs along the Project Alignment

| Shrub Identification Number | Presence of Exit Holes Y/N? | Riparian Habitat Y/N? | Number of Stems (by diameter) 2.5–7.6 cm (1–3 in.) | 7.6–12.7 cm (3–5 in.) | >12.7 cm (>5 in.) |
|---|---|---|---|---|---|
| 1 | N | N | 2 | 0 | 0 |
| 2 | N | N | 2 | 0 | 0 |
| 3 | N | N | 0 | 3 | 1 |
| 4 | N | N | 0 | 2 | 0 |
| 5 | N | N | 6 | 3 | 0 |
| 6 | N | N | 2 | 1 | 0 |
| 7 | N | N | 2 | 0 | 0 |
| 8 | N | N | 1 | 0 | 1 |
| 9 | N | N | 2 | 0 | 0 |

### Northwestern Pond Turtle

Northwestern pond turtle is a state species of special concern and a federal species of concern. Two subspecies of western pond turtle, northwestern pond turtle and southwestern pond turtle, have overlapping ranges throughout the Central Valley, from Sacramento County in the north to Tulare County in the south. Western pond turtles are thoroughly aquatic, preferring the quiet waters of ponds, reservoirs, and sluggish streams (Stebbins 1985). They leave the water to bask on rocks or logs and to deposit eggs along the streambank or up to 0.4 kilometer (0.25 mile) in adjacent uplands (Jennings and Hayes 1994). The species may overwinter in upland sites, which may enable it to occupy creeks or waterways that dry up for several months each year (Holland and Bury 1992). Western pond turtles typically become active as early as March and return to overwintering sites by October or November (Holland 1991).

Three observations of northwestern pond turtle were recorded within 16 kilometers (10 miles) of the project site (Figure 8-2b) (California Natural Diversity Database 2002). The closest observation of this species was documented at Baldwin Reservoir, located approximately 0.3 kilometer (0.2 mile) east of Auburn-Folsom Road in the project area. No CNDDB (2002) records have documented northwestern pond turtle at Linda Creek or adjacent ponded habitats. Also, no northwestern pond turtles were found during the field surveys.

Baldwin Reservoir canal is an artificial, earth-bottomed canal that flows from the San Juan Water District treatment facility, through the project area, and into Baldwin Reservoir (Figure 8-1). In the study area, habitat along this canal provides some suitable foraging habitat for northwestern pond turtles. On the west side of Auburn-Folsom Road, the canal is heavily vegetated with cattails and willows, and does not provide suitable nesting or basking habitat. East of Auburn-Folsom Road, the canal contains some vegetation along the banks;

however, this portion appears to be routinely dredged and provides little to no suitable habitat for northwestern pond turtle. Adjacent habitat is developed or heavily disturbed by routine maintenance activities and does not provide suitable upland habitat for this species.

Linda Creek and its tributary provide minimal habitat for northwestern pond turtle. Linda Creek is heavily vegetated and shaded by a thick, overhanging overstory and does not provide suitable basking habitat for turtles. Also, Linda Creek is located in a residential/urban landscape west of Auburn-Folsom Road, reducing the suitability of the habitat for use by northwestern pond turtles. Linda Creek and its tributary are not connected to Baldwin Reservoir or any other known population of northwestern pond turtles. In the study area, there is a low potential for this species to be present in Linda Creek or its tributary.

### White-Tailed Kite

White-tailed kite is a fully protected species under California Fish and Game Code, Section 3511. White-tailed kites have a restricted distribution in the United States, occurring only in California and western Oregon and along the Texas coast (American Ornithologists' Union 1983). The species is fairly common in California's Central Valley lowlands.

White-tailed kites nest in riparian and oak woodlands and forage in nearby grasslands, pastures, agricultural fields, and wetlands. Kites use nearby treetops for perching and nesting sites. Voles and mice are their common prey.

No white-tailed kites were observed in the study area during the field surveys; however, this species has been observed nesting in the vicinity of Folsom Lake during previous field surveys conducted for nearby projects. Woodland habitats in the study area provide suitable nesting habitat for white-tailed kites. Although this species was not observed nesting in the study area during the 2002 breeding season, there is a moderate to high potential for white-tailed kites to nest in the study area during subsequent breeding seasons, based on their occupancy of the project vicinity and the presence of suitable habitat.

### Bald Eagle, American Peregrine Falcon, and Cooper's Hawk

Bald eagle and American peregrine falcon are state or federally listed as threatened or endangered species. Cooper's hawk is considered a state species of special concern.

The project area is not located in the present nesting range of bald eagle and peregrine falcon. However, these species could occur as winter visitors or migrants in and adjacent to the study area. Folsom Lake and the adjacent woodland areas provide foraging habitat for both species.

Cooper's hawks generally nest in groves or trees along waterways or near the edge of a field where a large food source (primarily other bird species) is available (Baicich and Harrison 1997). In the project vicinity, Cooper's hawks are known to nest in riparian woodlands along Lake Natoma and nearby dredge tailings approximately 8 to 14.5 kilometers (5 to 9 miles) south of the project area (California Natural Diversity Database 2002) (Figure 8-2b). The study area is located along a heavily used roadway, and woodland habitats in the study area are located mostly within rural residential and urban landscapes. Because there is higher-quality habitat in the project vicinity, it is unlikely that Cooper's hawk would nest in the study area.

In conclusion, bald eagle, American Peregrine falcon, and Cooper's hawk could pass through the study area, but are not expected to nest in the study area or be affected by road-widening activities.

### Loggerhead Shrike, Oak Titmouse, and Other Non Special-Status Migratory Birds, including Raptors

Nesting migratory birds, including raptors, are protected by federal and state laws, including MBTA (50 CFR 10 and 21) and the California Fish and Game Code, Sections 3503 and 3503.5. Several non-special-status migratory birds and raptors, including great-horned owl, red-shouldered hawk, red-tailed hawk, American kestrel, acorn woodpecker, Nuttall's woodpecker, tree swallow, house wren, and western bluebird, could breed in the study area based on the presence of suitable nesting habitat (mixed riparian and foothill woodlands).

In addition, two special-status migratory birds, loggerhead shrike and oak titmouse, were determined to have a high potential to nest in the study area. Loggerhead shrike is considered a species of special concern by DFG and occupies shrubs and small trees in lowland habitats throughout California. Oak titmouse is a species of local viability concern, as identified by USFWS (Appendix G). This bird was observed in the study area during the field survey, which coincided with the species' breeding season (generally between March 1 and August 15).

### Swallows

Cliff swallows and barn swallows are not considered special-status wildlife species; however, their occupied nests and eggs are protected by both federal and state laws, including MBTA (50 CFR 10 and 21).

Cliff and barn swallows are two swallow species that frequently build mud nests on the underside of artificial structures, such as bridges. The two species winter in South America and arrive back in California to breed in February. Nesting occurs from April to August, and migration south occurs in September and October (Zeiner et al. 1990).

Suitable habitat for nesting swallows is present on the underside of a concrete box culvert located along Auburn-Folsom Road and across from the San Juan Water District treatment facility. Several remnant mud nests were observed on the underside of the culvert. However, most of the nests were not intact, and none was occupied during the May 29, 2002, field survey. Because swallows have nested in the study area in previous breeding seasons, as evidenced by the remnant nests, there is a moderate potential for swallows to nest in this area in subsequent breeding seasons.

# Regulatory Setting

This section describes the federal, state, and local plans, policies, and laws relevant to biological resources in the project area.

## Federal

### National Environmental Policy Act

NEPA, as amended, is the basic national charter for protection of the environment. It establishes policy, sets goals (Section 101[b]), and provides a means (Section 102) for carrying out the policy. Section 102(2) of the act contains "action-forcing" provisions to ensure that federal agencies act according to the letter and spirit of the act. NEPA and its supporting federal regulations establish certain requirements that must be adhered to for any project "...financed, assisted, conducted, or approved by a federal agency...." In short, federal regulations require that a federal agency "...determine whether the proposed action may significantly affect the quality of the human environment."

### Federal Endangered Species Act

ESA protects fish and wildlife species, and their habitats, that have been identified by USFWS or the National Marine Fisheries Service (NMFS) as threatened or endangered. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range; *threatened* refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

ESA is administered by USFWS and NMFS. In general, NMFS is responsible for protection of ESA-listed marine species and anadromous fishes, whereas other listed species are under USFWS jurisdiction. Provisions of Sections 7 and 9 of ESA are relevant to this project and are summarized below.

#### ESA Authorization Process for Federal Actions (Section 7)

Section 7 of ESA provides a means for authorizing *take* of threatened and endangered species by federal agencies. It applies to actions that are conducted, permitted, or funded by a federal agency. Under Section 7, the federal agency conducting, funding, or permitting an action (the lead federal agency) must consult with USFWS or NMFS, as appropriate, to ensure that the proposed action will not jeopardize endangered or threatened species or destroy or adversely modify designated critical habitat. If a proposed project "may affect" a listed species or designated critical habitat, the lead agency is required to prepare a BA evaluating the nature and severity of the expected effect. In response, USFWS or NMFS issues a biological opinion (BO), with a determination that the proposed action either:

- may jeopardize the continued existence of one or more listed species (*jeopardy finding*) or result in the destruction or adverse modification of critical habitat (*adverse modification finding*), or
- will not jeopardize the continued existence of any listed species (*no jeopardy finding*) or result in adverse modification of critical habitat (*no adverse modification finding*).

The BO issued by USFWS or NMFS may stipulate discretionary "reasonable and prudent" alternatives. If the project would not jeopardize a listed species, USFWS or NMFS issues an incidental take statement to authorize the proposed activity. For the proposed project, Reclamation will submit a BA for VELB to USFWS, in compliance with Section 7 of ESA (16 USC 1536).

### ESA Prohibitions (Section 9)

Section 9 of ESA prohibits the *take* of any fish or wildlife species listed under ESA as endangered. *Take* of threatened species also is prohibited under Section 9, unless otherwise authorized by federal regulations.[1] *Take*, as defined by ESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." *Harm* is defined as "any act that kills or injures the species, including significant habitat modification." In addition, Section 9 prohibits removing, digging up, cutting, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction.

## Migratory Bird Treaty Act

MBTA (16 USC 703) enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. It establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs (16 USC 703, 50 CFR 21, 50 CFR 10). Most actions that result in taking or in permanent or temporary possession of a protected species constitute violations of MBTA. Examples of permitted actions that do not violate MBTA are the possession of a hunting license to pursue specific gamebirds, legitimate research activities, display in zoological gardens, bird-banding, and other similar activities. USFWS is responsible for overseeing compliance with MBTA, and the U.S. Department of Agriculture's Animal Damage Control Officer makes recommendations on related animal protection issues.

Executive Order 13186 (January 10, 2001) directs each federal agency taking actions having or likely to have a negative impact on migratory bird populations to work with USFWS to develop a memorandum of understanding (MOU) that will promote the conservation of migratory bird populations. Protocols developed under the MOU must include the following agency responsibilities:

[1] In some cases, exceptions may be made for threatened species under ESA Section 4[d]; in such cases, USFWS or NMFS issues a "4[d] rule" describing protections for the threatened species and specifying the circumstances under which take is allowed.

- avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- restore and enhance habitat of migratory birds, as practicable; and
- prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The executive order is designed to assist federal agencies in their efforts to comply with MBTA, and does not constitute any legal authorization to take migratory birds.

## Clean Water Act

The federal Clean Water Act was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The Clean Water Act now serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

The Clean Water Act empowers EPA to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. *Point-source pollution* is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. *Nonpoint-source pollution* originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. The Clean Water Act operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the Clean Water Act's primary regulatory tool.

The following paragraphs provide additional details on specific sections of the Clean Water Act.

### Permits for Fill Placement in Waters and Wetlands (Section 404)

The Clean Water Act, Section 404, regulates the discharge of dredged and fill materials into waters of the United States. *Waters of the United States* refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands, including any or all of the following:

- Areas within the OHWM of a stream, including nonperennial streams with a defined bed and bank and any stream channel that conveys natural runoff, even if it has been realigned
- Seasonal and perennial wetlands, including coastal wetlands

Applicants must obtain a permit from the Corps for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. As stated by the Counsel for EPA's January 19, 2001, determination in response to the *Solid Waste Agency of Northern Cook County* vs. *United States Army Corps of Engineers* ruling, nonnavigable, isolated waters may not be regulated by the Corps. As part of the wetland delineation and verification process, the Corps will determine whether the wetlands in the study area are isolated and therefore not regulated under Section 404 of the Clean Water Act.

The Corps may issue either an individual permit evaluated on a case-by-case basis or a general permit evaluated at a program level for a series of related activities. General permits are preauthorized and are issued to cover multiple instances of similar activities expected to cause only minimal adverse environmental effects. Nationwide Permits (NWPs) are a type of general permit issued to cover particular fill activities. Each NWP specifies particular conditions that must be met in order for the NWP to apply to a particular project. Waters of the United States in the project corridor are under the jurisdiction of the Corps's Sacramento District.

Compliance with Clean Water Act Section 404 requires compliance with several other environmental laws and regulations. The Corps cannot issue an individual permit or verify the use of a general permit until the requirements of NEPA, ESA, and the National Historic Preservation Act (see Chapter 10, "Cultural Resources") have been met. In addition, the Corps cannot issue or verify any permit until a water quality certification, or a waiver of certification, has been issued pursuant to the Clean Water Act, Section 401.

Certain activities are exempt from the Section 404 permitting process. Exempt activities include:

- farming, ranching, and forestry activities that are considered normal and ongoing (as of 1985 conditions), such as plowing, harvesting, and minor drainage of upland areas to waters of the United States;
- construction and maintenance of stock ponds and irrigation ditches;
- maintenance of drainage ditches;
- construction of temporary sedimentation basins in upland areas;
- construction and maintenance of farm, forest, and mining roads in accordance with best management practices (BMPs) and
- other activities regulated by an approved program of BMPs authorized by the Clean Water Act, Section 208(b)(4).

Section 404 permits may be issued only for the project's least environmentally damaging practicable alternative. That is, authorization of a proposed discharge is prohibited if there is a practicable alternative that would have less adverse impacts and lacks other significant adverse consequences.

### Permits for Stormwater Discharge (Section 402)

The Clean Water Act, Section 402, regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, administered by EPA. In California, the State Water Resources Control Board (SWRCB) is authorized by EPA to oversee the NPDES program through the Regional Water Quality Control Boards (RWQCBs) (see the related discussion under "Porter-Cologne Water Quality Control Act," below). The project corridor and vicinity are under the jurisdiction of the Central Valley RWQCB.

NPDES permits are required for projects that disturb more than 0.4 hectare (1 acre) of land. The NPDES permitting process requires the applicant to file a public notice of intent to discharge stormwater and to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities. In addition, it describes the BMPs that will be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. Permittees are required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

### Water Quality Certification (Section 401)

Under the Clean Water Act, Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate, or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with Clean Water Act Section 401.

## Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act requires consultation with USFWS when the waters of any stream or other body of water are proposed, authorized, permitted, or licensed to be impounded, diverted, or otherwise controlled or modified under a federal permit or license (16 USC 661-667[e]). Most USFWS comments on applications for permits under Section 404 of the Clean Water Act or Section 10 of the River and Harbors Act are conveyed to the Corps through the consultation process required by this coordination act.

USFWS provides advisory comments and recommends mitigation measures to avoid impacts on wetlands or modify activities that may directly affect wetlands. Mitigation recommended by USFWS may include restoring or creating habitat to avoid a net loss of wetland functions and values. Although consultation with USFWS is required, the Corps is not required to implement USFWS recommendations.

### Executive Order 11990—Protection of Wetlands

Executive Order 11990 (issued in 1977) is an overall wetland policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state and local projects. It requires federal agencies to follow procedures for avoidance, mitigation, and preservation, with public input, before proposing new construction in wetlands. When federal lands are proposed for lease or sale to nonfederal parties, Executive Order 11990 requires that the lease or conveyance contain restrictions to protect and enhance the wetlands on the property. The restrictions of this executive order apply to wetlands on military installations proposed for closure. In this capacity, Executive Order 11990 can affect the sale of federal lands with wetlands.

Compliance with Section 404 permit requirements may constitute compliance with the requirements of Executive Order 11990.

## State

### California Environmental Quality Act

CEQA is the regulatory framework by which California public agencies identify and mitigate significant environmental impacts. A project normally has a significant environmental impact on biological resources if it substantially affects a rare or endangered species or the habitat of that species; substantially interferes with the movement of resident or migratory fish or wildlife; or substantially diminishes habitat for fish, wildlife, or plants. The State CEQA Guidelines define rare, threatened, or endangered species as those listed under CESA and ESA, as well as any other species that meets the criteria of the resource agencies or local agencies—for example, the DFG-designated species of special concern and CNPS-listed species. The State CEQA Guidelines state that the lead agency preparing an EIR must consult with and receive written findings from DFG concerning project impacts on species listed as endangered or threatened. The effects of a proposed project on these resources are important in determining whether the project has significant environmental impacts under CEQA.

### California State Wetlands Conservation Policy

The Governor of California issued an executive order on August 23, 1993, that created a California State Wetlands Conservation Policy. This policy is being implemented by an interagency task force that is jointly headed by the State Resources Agency and the California Environmental Protection Agency (Cal-EPA). The policy has three goals (Cylinder et al. 1995):

- to ensure no overall net loss and a long-term net gain in wetlands acreage and values in a manner that fosters creativity, stewardship, and respect for private property;

- to reduce the procedural complexity of state and federal wetlands conservation program administration; and
- to encourage partnerships that make restoration, landowner incentives, and cooperative planning the primary focus of wetlands conservation.

## Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) articulates with the Clean Water Act. The act, passed in 1975, provides for the development and periodic review of Water Quality Control Plans (Basin Plans) that designate beneficial uses of California's major rivers and groundwater basins and establish narrative and numerical water quality objectives for those waters (Central Valley Regional Water Quality Control Board 1998). Basin plans are primarily implemented by using the NPDES permitting system to regulate waste discharges so that water quality objectives are met.

## California Fish and Game Code

### Fully Protected Species

The California Fish and Game Code provides protection from take for a variety of species, referred to as *fully protected species*. Section 5050 lists protected amphibians and reptiles. Section 3515 prohibits take of fully protected fish species. Eggs and nests of all birds are protected under Section 3503, nesting birds (including raptors and passerines) under Sections 3503.5 and 3513, birds of prey under Section 3503.5, and fully protected birds under Section 3511. Migratory nongame birds are protected under Section 3800. Mammals are protected under Section 4700. The California Fish and Game Code defines *take* as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited.

### Streambed Alteration Agreements (Section 1600 et seq.)

DFG has jurisdictional authority over wetland resources associated with rivers, streams, and lakes under California Fish and Game Code, Sections 1600–1607. DFG has the authority to regulate all work under the jurisdiction of the State of California that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed. Activities of agencies that are project proponents are regulated under Section 1601. Activities of private individuals who are project proponents are regulated under Section 1603.

In practice, DFG marks its jurisdictional limit at the top of the stream or lake bank or the outer edge of the riparian vegetation, where present, and sometimes extends its jurisdiction to the edge of the 100-year floodplain. Because riparian habitats do not always support wetland hydrology or hydric soils, wetland boundaries, as defined by Section 404, sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Therefore, jurisdictional boundaries under Section 1600 may encompass a greater area than those regulated under Section 404.

DFG enters into a streambed alteration agreement with an applicant and can impose conditions on the agreement to ensure that no net loss of wetland values or acreage will be incurred. The streambed or lakebed alteration agreement is not a permit but, rather, a mutual agreement between DFG and the applicant.

#### Sections 3503 and 3503.5

Section 3503 of the California Fish and Game Code prohibits the killing of birds or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and the destruction of raptor nests.

## Local

This section summarizes local policies and ordinances that pertain to biological resources that could affect or be affected by the proposed project. The policies were obtained from the Placer County General Plan and Granite Bay Community Plan.

### Placer County General Plan

The Placer County General Plan (Placer County 1994) Natural Resources Element contains policies to protect creeks, wetland communities, riparian areas, and wildlife species throughout Placer County.

The following policies from the Conservation Element are applicable to the project.

**Policy 6.A.3.** The County shall require development projects proposing to encroach into a creek corridor or creek setback to do one or more of the following, in descending order or desirability:

a. avoid the disturbance of riparian vegetation;

b. replace riparian vegetation (on-site, in-kind);

c. restore another section of the creek (in-kind); and/or

d. pay a mitigation fee for restoration elsewhere (e.g., wetland mitigation banking program).

**Policy 6.A.7.** The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.

**Policy 6.B.1.** The County shall support the "no net loss" policy for wetland areas regulated by the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and California Department of fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.

**Policy 6.B.2.** The County shall require new development to mitigate wetland loss in both regulated and non-regulated wetlands to achieve "no net loss" through any combination of the following, in descending order or desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource; or (3) compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, or endangered species and/or habitat which supports these species in wetland and riparian areas.

**Policy 6.C.1.** The County shall identify and protect significant ecological resource areas and other unique wildlife habitats critical to protecting and sustaining wildlife populations. Significant ecological resource areas include the following:

a. wetland areas including vernal pools;

b. stream environment zones;

c. any habitat for rare, threatened, or endangered animals or plants;

d. critical deer winter ranges (winter and summer), migratory routes and fawning habitat;

e. large areas of non-fragmented natural habitat, including Blue Oak Woodlands, Valley Foothill Riparian, and vernal pool habitat;

f. identifiable wildlife movement zones, including but not limited to, non-fragmented stream environment zones, avian and mammalian migratory routes, and known concentration areas of waterfowl within the Pacific Flyway; and

g. important spawning areas for anadramous fish.

**Policy 6.C.6.** The County shall support preservation of the habitats of rare, threatened, endangered, and/or other special-status species. Federal and state agencies, as well as other resource conservation organizations shall be encouraged to acquire and manage endangered species' habitats.

**6.C.10.** The County shall use the California Wildlife Habitat Relationships (WHR) system as a standard descriptive tool and guide for environmental assessment in the absence of a more detailed site-specific system.

### Tree Preservation

Placer County acknowledges the value of native trees and has adopted Article 12.16, Tree Preservation, which seeks to preserve native trees wherever possible, especially within designated tree preservation zones. The proposed project would be located in a county-designated tree preservation zone. This article contains general countywide requirements (Placer County Code 12.16.030), tree preservation zones (Placer County Code 12.16.040), tree permit exemptions (Placer County Code 12.16.050), and a tree replacement program and penalties (Placer County Code 12.16.080). A copy of Article 12.16, Tree Preservation, is provided in Appendix M.

### Granite Bay Community Plan

The Granite Bay Community Plan (1989) Conservation Element contains policies to protect and conserve natural resources in the plan area. The following policies from the Conservation Element are applicable to the project.

**Policy A-4.** Removal of vegetation shall be minimized and where removal is necessary, replanting erosion, maximize reoxygenation, and retain the aesthetic qualities of the community.

**Policy A-18.** Environmental impact studies shall take into consideration the impacts of development proposals on wildlife habitats.

**Policy A-23.** Site specific surveys shall be required prior to development to delineate wetlands in the Granite Bay Community Plan area. All development proposals involving wetlands shall be coordinated with the California Department of fish and Game, Corps of Engineers, and U.S. Fish and Wildlife Service. A "no-net-loss" policy requiring preservation of all wetland sites or preservation of priority wetlands and compensation for wetland losses should continue to be implemented by these agencies.

# Environmental Consequences

## Criteria for Determining Significance

The State CEQA Guidelines and professional standards were used to determine whether the proposed project would have a significant impact on biological resources.

### State CEQA Guidelines

According to the State CEQA Guidelines, a project would have a significant impact on biological resources if it would

- have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by DFG or USFWS;

- have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted habitat conservation plan (HCP), natural communities conservation plan (NCCP), or other approved local, regional, or state habitat conservation plan.

## Standard Professional Practice

Standard professional practice was also used to determine whether an impact on biological resources would be significant. The proposed project likely would cause a significant impact if it would result in:

- documented resource scarcity and sensitivity, both locally and regionally;
- decreased local and regional distribution of common and sensitive biological resources;
- long-term degradation of a sensitive plant community because of substantial alteration of land forms or site conditions (e.g., alteration of wetland hydrology);
- substantial loss of a plant community and associated wildlife habitat;
- fragmentation or isolation of wildlife habitats, especially riparian and wetland communities;
- substantial disturbance of wildlife because of human activities;
- avoidance by fish of biologically important habitat for substantial periods, which may increase mortality or reduce reproductive success;
- disruption of natural wildlife movement corridors;
- substantial reduction in local population size, attributable to direct mortality or habitat loss, lowered reproductive success, or habitat fragmentation of:
  - species qualifying as rare and endangered under CEQA,
  - species that are state-listed or federally listed as threatened or endangered, or
  - portions of local populations that are candidates for state or federal listing and federal and state species of concern; or
- substantial reduction or elimination of species diversity or abundance.

# Methods and Assumptions for the Impact Analysis

This biological resources impact analysis is based on preliminary design drawings (Appendix A) and site-specific information gathered during field surveys. To the extent possible, the mitigation measures described for potential impacts on sensitive biological resources were developed through coordination with resource agencies. Additional compensatory mitigation for impacts on wetlands, riparian habitats, and VELB may also be identified as conditions of project permits (e.g., the Section 404 Clean Water Act permit from the Corps, the Section 1601 streambed alteration agreement from DFG, and the Section 7 ESA Authorization Process from USFWS) and will be implemented as part of the project.

## Impact Assumptions

Construction activities associated with the proposed project could result in temporary, short-term, or long-term impacts (defined below under "Impact Mechanisms") on biological resources in the study area. In assessing the magnitude of possible impacts, the following project understandings and assumptions were made regarding construction-related impacts on biological resources.

- No new temporary or permanent access roads will be constructed. Where possible, the Placer County DPW will access the construction area from Auburn-Folsom Road.
- If fill material is placed in a waterway (e.g., Linda Creek), it will be placed in a way that will not hinder the flow of water. It is assumed that the natural streamflow will distribute the material throughout the downstream system.
- All material-stockpiling areas and staging areas will be located either within the work zone in nonsensitive areas or at designated disturbed sites outside the work zone. All materials will be disposed of at the nearest approved commercial disposal site.
- Removing portions of uncommon and biologically unique habitats, such as riparian woodland, could lead to a localized decrease in those habitat types and could result in the direct loss of special-status species (e.g., VELB) or their habitats.
- Floristic surveys were conducted in the study area. No special-status plants were located during 2002 botanical surveys. Therefore, the proposed project would not affect special-status plants, and these species are not discussed in the following section.
- Construction of the proposed project would result in the disturbance of common natural and artificial communities (e.g., grassland and landscaped/ruderal areas). The loss or disturbance of these communities is not considered significant from a botanical perspective; therefore, impacts on these communities are not discussed in this section.

## Impact Mechanisms

Biological resources could be directly or indirectly affected during construction activities associated with the proposed project. Impacts on biological resources fall into the three categories: temporary, short-term, and long-term. These categories are defined below.

- A *temporary* impact is one that would occur only during construction and/or subsequent restoration.
- A *short-term* impact is one that would last from the time construction ceases to 3 years after construction and/or subsequent restoration.
- A *long-term* impact would last longer than 3 years after construction and/or subsequent restoration and typically would be associated with road construction and future road maintenance activities. In some cases, a long-term impact could be considered a permanent impact.
- *Direct* and *indirect* effects described for VELB were determined using the definitions identified under ESA.

The following types of activities could cause impacts on biological resources.

- Grading and paving activities during road widening
- Temporary stockpiling and sidecasting of soil, construction materials, or other construction wastes
- Soil compaction, dust, and water runoff from the construction site
- Creation and use of equipment access routes through Linda Creek and other drainages
- Construction-related noise (from equipment)
- Site preparation for temporary water bypass structures
- Development of soil stockpiling areas to contain material from excavation and access road construction
- Stream dewatering or installation of temporary water-diversion structures
- Degradation of water quality in wetlands and creeks, resulting from construction runoff containing petroleum products

# Impacts

The biological resources impacts associated with the project are common to all alternatives; variations among alternatives are described.

# Construction-Related Impacts

## Impact 8.1 Potential Disturbance or Loss of Waters of the United States (Including Wetlands)

Construction activities associated with the proposed project would result in the disturbance or loss of seasonal wetlands, freshwater marsh wetlands, and streams that are considered waters of the United States and provide important habitat functions. These biological communities would be affected directly during grading and material stockpiling activities. Some waters of the United States would be temporarily affected, and other wetlands in the construction corridor would be permanently affected.

Most of the wetlands in the study area have been previously disturbed. Some of these wetland communities have successfully reestablished after previous construction and road maintenance activities and support similar wetland characteristics as adjacent, undisturbed wetlands. Wetlands in the project area that are not disturbed on a regular basis likely are resilient and reestablish naturally over time if a hydrological connection is maintained and the soil (with seedbank) has not been displaced.

Impacts on wetlands adjacent to the area of direct impact are considered temporary because

- construction activities would be relatively short in duration within any wetland or other water of the United States,
- construction activities would not substantially alter wetland hydrologic functions,
- native soils and plant material would be replaced immediately after construction to allow wetlands to reestablish after construction activities are complete,
- natural landscape contours will be restored to preproject conditions.

Although temporary, the loss or degradation of waters of the United States could result in degradation of sensitive plant communities, fragmentation or isolation of important wildlife habitats, or disruption of natural wildlife movement corridors.

This impact differs among alternatives, as described below.

### Alternative 1: Widen Roadway to the West

This alternative would result in the loss of 0.033 hectare (0.084 acre) of waters of the United States, including wetlands. This impact is considered significant. Implementation of Mitigation Measures P8.1a through P8-1h would reduce this impact to a less-than-significant level and ensure no net loss of wetland acreage and habitat value.

### Alternative 2: Widen Roadway to the East

This alternative would result in the loss of 0.038 hectare (0.095 acre) of waters of the United States, including wetlands. This impact is considered significant. Implementation of Mitigation Measures P8.1a through P8-1h would reduce this impact to a less-than-significant level and ensure no net loss of wetland acreage and habitat value.

### Alternative 3: Widen Roadway Equally on Both Sides

This alternative would result in the loss of 0.030 hectare (0.075 acre) of waters of the United States, including wetlands. This impact is considered significant. Implementation of Mitigation Measures P8.1a through P8-1h would reduce this impact to a less-than-significant level and ensure no net loss of wetland acreage and habitat value.

### Alternative 4: County DPW–Preferred Alternative

This alternative would result in the loss of 0.04 hectare (0.10 acre) of waters of the United States, including wetlands. This impact is considered significant. Implementation of Mitigation Measures P8.1a through P8-1h would reduce this impact to a less-than-significant level and ensure no net loss of wetland acreage and habitat value.

## Impact 8.2 Potential Loss or Disturbance of Valley Foothill Riparian Forest

Construction activities associated with the proposed project would result in the disturbance or loss of valley foothill riparian forest that is located along two natural streams in the study area. Riparian trees and shrubs would be removed during road widening and construction activities around Linda Creek and a tributary stream located south of Linda Creek.

The loss or degradation of valley foothill riparian forest could result in degradation of sensitive plant communities, fragmentation or isolation of important wildlife habitats, or disruption of natural wildlife movement corridors.

This impact differs among alternatives, as described below.

### Alternative 1: Widen Roadway to the West

This alternative would result in the loss of 0.02 hectare (0.05 acre) of valley foothill riparian forest. This impact is considered significant. Implementation of Mitigation Measures P8.2a through P8.2d would reduce this impact to a less-than-significant level and ensure no net loss of riparian acreage and habitat value.

### Alternative 2: Widen Roadway to the East

This alternative would result in the loss of 0.04 hectare (0.11 acre) of valley foothill riparian forest. This impact is considered significant. Implementation of Mitigation Measures P8.2a through P8.2d would reduce this impact to a less-than-significant level and ensure no net loss of riparian acreage and habitat value.

### Alternative 3: Widen Roadway Equally on Both Sides

This alternative would result in the loss of 0.03 hectare (0.07 acre) of valley foothill riparian forest. This impact is considered significant. Implementation of Mitigation Measures P8.2a through P8.2d would reduce this impact to a less-than-significant level and ensure no net loss of riparian acreage and habitat value.

### Alternative 4: County DPW–Preferred Alternative

This alternative would result in the loss of 0.04 hectare (0.10 acre) of valley foothill riparian forest. This impact is considered significant. Implementation of Mitigation Measures P8.2a through P8.2d would reduce this impact to a less-than-significant level and ensure no net loss of riparian acreage and habitat value.

## Impact 8.3 Loss or Disturbance of Blue Oak–Digger Pine Woodland and Native Trees

Construction activities associated with the proposed project would result in the disturbance or loss of an oak woodland community and individual native trees. Native trees associated with the woodland community would be removed or affected during trenching, staging, trimming for equipment access, and other construction-related activities. Although the woodland community is dominated by native trees that are common in the project region (blue oak, interior live oak, foothill pine), the loss of trees could conflict with the Placer County policy protecting native trees in the county.

This impact differs among alternatives, as described below and as shown in Table 8-6.

**Table 8-6.** Impacts on Trees by Alternative

| | Alternative 1: Widen Roadway to the West | | Alternative 2: Widen Roadway to the East | | Alternative 3: Widen Equally on Both Sides | | Alternative 4: County DPW–Preferred | |
|---|---|---|---|---|---|---|---|---|
| Tree Losses by Type | Number of Trees | Inches | Number of Trees | Inches | Number of Trees | Inches | Number of Trees | Inches |
| Native oaks | 195 | 4,432 | 267 | 5,454 | 254 | 5,457 | 242 | 4,921 |
| Other natives | 101 | 1,391 | 92 | 1,669 | 64 | 1,157 | 71 | 1,247 |
| Nonnatives | 75 | 1,468 | 30 | 538 | 46 | 706 | 33 | 531 |
| Total | 371 | 7,291 | 389 | 7,661 | 364 | 7,320 | 346 | 6,699 |

Source: Sierra Nevada Arborists. Summary Comparison of Tree Losses by Location, Type, and Size. October 15, 2002.

### Alternative 1: Widen Roadway to the West

This alternative would result in the loss of 371 trees, including 195 oaks and 101 other native trees. This impact is considered significant. Implementation of

Mitigation Measures P8.3a through P8.3e would reduce this impact to a less-than-significant level.

### Alternative 2: Widen Roadway to the East

This alternative would result in the loss of 389 trees, including 267 oaks and 92 other native trees. This impact is considered significant. Implementation of Mitigation Measures P8.3a through P8.3e would reduce this impact to a less-than-significant level.

### Alternative 3: Widen Roadway Equally on Both Sides

This alternative would result in the loss of 364 trees, including 254 oaks and 64 other native trees. This impact is considered significant. Implementation of Mitigation Measures P8.3a through P8.3e would reduce this impact to a less-than-significant level.

### Alternative 4: County DPW–Preferred Alternative

This alternative would result in the loss of 346 trees, including 242 oaks and 71 other native trees. This impact is considered significant. Implementation of Mitigation Measures P8.3a through P8.3e would reduce this impact to a less-than-significant level.

## Impact 8.4 Potential Mortality of Individual Valley Elderberry Longhorn Beetles or Disturbance of Habitat

Construction activities associated with the proposed project could result in the mortality of individuals or disturbance of habitat for VELB, a species federally listed as threatened. VELB could be directly affected by road-widening activities (including grading, paving, and equipment staging) that occur within 6 meters (20 feet) of the dripline of an elderberry shrub. These impacts may involve the removal of the shrub or the destruction of stems. VELB could be indirectly affected by increased accumulation of dust on shrubs resulting from ground-disturbing activities, soil compaction around the root system of a shrub, or removal of associate woodland species. These activities could result in the death of the shrub and loss of VELB habitat after the project has been completed. It is assumed that shrubs located between 6 and 30.5 meters (between 20 and 100 feet) of the construction area would not be directly affected but could be indirectly affected by the proposed project.

This impact differs among alternatives, as listed in Table 8-7 and described below.

**Table 8-7.** Summary of Stem Counts for Elderberry Shrubs Directly Affected by Each Build Alternative

| | | Total Number of Stems (By Diameter) | | |
|---|---|---|---|---|
| Alternative | Shrubs Directly Affected* | 2.5–7.6 cm (1–3 in.) | 7.6–12.7 cm (3–5 in.) | >12.7 cm (>5 in.) |
| Alternative 1: Widening to the West | #2, 6, 8 | 5 | 1 | 1 |
| Alternative 2: Widening to the East | #2, 6, 7, 8, 9 | 9 | 1 | 1 |
| Alternative 3: Widening Equally on Both Sides | #2, 6, 7, 8, 9 | 9 | 1 | 1 |
| Alternative 4: County DPW–Preferred | #2, 6, 7, 8, 9 | 9 | 1 | 1 |

*Identification numbers are shown in Figure 3 of Appendix J, the BA for VELB.

### Alternative 1: Widen Roadway to the West

This alternative would result in direct impacts on three shrubs and indirect impacts on four shrubs. This impact is considered significant because it would result in direct loss of habitat for a federally listed species. Implementation of Mitigation Measures P8.4a through P8.4f would reduce this impact to a less-than-significant level.

### Alternative 2: Widen Roadway to the East

This alternative would result in direct impacts on five shrubs and indirect impacts on three shrubs. This impact is considered significant because it would result in direct loss of habitat for a federally listed species. Implementation of Mitigation Measures P8.4a through P8.4f would reduce this impact to a less-than-significant level.

### Alternative 3: Widen Roadway Equally on Both Sides

This alternative would result in direct impacts on five shrubs and indirect impacts on three shrubs. This impact is considered significant because it would result in direct loss of habitat for a federally listed species. Implementation of Mitigation Measures P8.4a through P8.4f would reduce this impact to a less-than-significant level.

### Alternative 4: County DPW-Preferred Alternative

This alternative would result in direct impacts on five shrubs and indirect impacts on four shrubs. This impact is considered significant because it would result in direct loss of habitat for a federally listed species. Implementation of Mitigation Measures P8.4a through P8.4f would reduce this impact to a less-than-significant level.

## Impact 8.5 Potential Mortality of Northwestern Pond Turtles

Construction activities associated with the proposed project could result in the mortality of northwestern pond turtles. Northwestern pond turtle is a state species of special concern and a federal species of concern. Although no northwestern pond turtles were observed in the study area during 2002 field surveys, this species has been documented in Baldwin Reservoir, approximately 0.32 kilometer (0.2 mile) west of the project area. Population declines of this species have been attributed to a variety of factors, including habitat loss resulting from urbanization, water projects, and agricultural conversion. This species is subject to further population declines caused by continued habitat loss and disturbance. Construction equipment operating in and adjacent to the Baldwin Reservoir canal could result in the direct mortality of turtles.

This impact is common to all build alternatives and is considered potentially significant, because the loss of an individual northwestern pond turtle could substantially decrease the local population if the present population is small. Implementation of Mitigation Measure P8.5 would reduce this impact to a less-than-significant level.

## Impact 8.6 Potential Disturbance of Nesting Loggerhead Shrike, Oak Titmouse, White-Tailed Kite, and Non-Special-Status Nesting Migratory Birds and Raptors

Construction of the proposed project would involve removing trees and shrubs. This activity could disturb nesting special-status and non-special-status migratory birds and raptors or remove occupied nests if construction occurs during the breeding season (which is generally between March 1 and August 15). This disturbance could cause nest abandonment and the death of young or the loss of reproductive potential at active nests located in or near the study area. Focused surveys for nesting migratory birds and raptors were not conducted; however, many migratory birds, including oak titmouse, northern mockingbird, Bewick's wren, American goldfinch, yellow-rumped warbler, and bushtit were observed in the riparian forest and blue oak–foothill pine woodland in the study area during May and July 2002 field surveys. Although no nesting raptors were observed in the study area, potential nesting habitat was identified in the riparian and blue oak–foothill pine woodland habitats for white-tailed kite, a fully protected species under the California Fish and Game code, and for three non-special-status raptors (red-tailed hawk, red-shouldered hawk, American kestrel, and great horned owl).

Although migratory birds are not colonial nesters, they do have relatively small territories, and numerous birds could nest in the riparian and blue oak–foothill pine woodland habitat that would be removed or disturbed by construction activities. Urban development in the project vicinity has resulted in an overall decrease in available nesting habitat for migratory birds. The loss of a large number of migratory birds in the study area could result in local population declines. In addition, construction activities that result in the mortality of migratory birds would violate MBTA.

White-tailed kites and non-special-status raptors listed above are locally and regionally abundant. Because these species are not colonial nesters and generally do not nest in high densities, it is unlikely that the proposed project would result in a substantial decrease in the local population of these species. However, all raptor nests are protected under Section 3503 (active bird nests) and 3503.5 (active raptor nests) of the California Fish and Game Code, and construction activities associated with the project could be in violation of this code if raptor nests are removed.

This impact is common to all build alternatives. The impact is considered potentially significant: significance depends on whether nesting migratory birds and raptors are disturbed during construction activities and whether the resulting population declines are large and affect the viability of local populations.

Implementation of Mitigation Measures P8.6a and P8.6b would reduce this impact to a less-than-significant level and would avoid violating the MBTA and the California Fish and Game Code.

## Impact 8.7 Potential Disturbance of Nesting Cliff and Barn Swallows

Construction of the proposed project could result in the disturbance of nesting cliff and barn swallows during culvert modifications. Potential habitat for these species is located on the underside of a box culvert at the crossing of Auburn-Folsom Road over the Baldwin Reservoir canal. Although no active swallow nests were observed during the May 2002 field surveys, the remnants of swallow nests were observed on the underside of the concrete box culvert, which provides evidence of use by nesting swallows in previous breeding seasons. Cliff and barn swallows are not considered special-status species, but their occupied nests and eggs are protected by federal and state laws, including MBTA and the California Fish and Game Code, Sections 3503, 3513, and 3800 (50 CFR 10 and 21). USFWS is responsible for overseeing compliance with MBTA, and DFG is responsible for overseeing compliance with the California Fish and Game Code.

This impact is common to all build alternatives. It is considered potentially significant: significance depends on whether nesting swallows are disturbed during construction and whether the resulting population declines are large and affect the viability of local populations. Because the box culvert is relatively narrow (approximately 3 meters [10 feet]), it could support only a small colony of nesting swallows. Therefore, construction-related activities would not be expected to affect the viability of local swallow populations. However, construction activities that result in the mortality of swallows would violate MBTA.

Implementation of Mitigation Measure P8.7 would reduce this impact to a less-than-significant level and avoid violating MBTA.

#### Impact 8.8 Potential Disturbance of Common Wildlife Species

Construction activities associated with the proposed project would remove habitat for many common wildlife species. During construction, individuals of many common species would be displaced to adjacent lands. Because the project corridor (i.e., the area of disturbance) is linear and is located along an already developed corridor, the temporary displacement of common wildlife is not likely to lead to a substantial reduction of species diversity or abundance in the project region.

This impact is common to all build alternatives and is considered less than significant. No mitigation is required.

## Mitigation Measures

This section details the mitigation measures identified for the project alternatives. Mitigation measures are identified as either of the following.

- *Proposed mitigation measures* are measures that the Placer County DPW, as project proponent, is either proposing as part of the project design or has agreed to implement.
- *Recommended mitigation measures* are measures that are identified in this environmental document but that the Placer County DPW has not chosen to implement, and which may be required by the Placer County Board of Supervisors if the project is approved.

### Proposed Mitigation Measures

#### Mitigation Measure P8.1a: Obtain a Section 404 Permit from the Corps

The project is subject to review and approval by the Corps. It is Placer County DPW's responsibility to obtain a Clean Water Act Section 404 permit from the Corps before beginning any grading, clearing, or excavation.

#### Mitigation Measure P8.1b: Obtain a Section 401 Water Quality Certification or Waiver from the Central Valley RWQCB

As a condition of the Section 404 permit, the project is subject to review and approval by the Central Valley RWQCB. It is Placer County DPW's responsibility to obtain a Clean Water Act Section 401 certificate or waiver from the RWQCB before beginning any grading, clearing, or excavation.

### Mitigation Measure P8.1c: Obtain a Section 1601 Streambed Alteration Agreement from DFG

The project is subject to review by DFG. It is Placer County DPW's responsibility to obtain a streambed alteration agreement from DFG before beginning any grading, clearing, or excavation.

### Mitigation Measure P8.1d: Pay Appropriate Environmental Document Review Fee

Pursuant to Section 21089(b) of the California Public Resources Code and Section 711.4 et seq. of the California Fish and Game Code, the approval of this project shall not be considered final unless the specified fees are paid to DFG. The fees currently required are $880 for projects with environmental impact reports and $1,280 for projects with negative declarations; however, the actual fee paid will be that in effect at the time payment occurs. Without the appropriate fee, the Notice of Determination (which the County is required to file within 5 days of project approval) is not operative, vested, or final, and shall not be accepted by the County Clerk.

### Mitigation Measure P8.1e: Install Temporary Construction Fencing to Protect Wetlands

Placer County DPW shall install a 1.2-meter-tall (4-foot-tall), brightly colored (usually yellow or orange), synthetic mesh–material fence (or an equivalent approved by the Development Review Committee [DRC]) at the following location before allowing any construction equipment to be moved onto the site and before any construction activities take place.

1. Adjacent to any and all wetlands, drainages, and creeks that are within 15.2 meters (50 feet) of any proposed construction activity

No construction activities, including grading, shall be allowed until this condition is satisfied. Any encroachment within wetland areas must first be approved by the DRC. No grading, clearing, or storage of equipment or machinery, or similar activity, may occur until a representative of the DRC has inspected and approved all temporary construction fencing. This restriction applies to both onsite and offsite improvements. The temporary fencing shall be maintained until all construction activities are complete. No grading, trenching, or movement of construction equipment shall be allowed within fenced areas.

### Mitigation Measure P8.1f: Avoid and Minimize Disturbance of Waters of the United States, Including Wetlands

To the extent possible, Placer County DPW shall avoid and minimize impacts on waters of the United States (including wetlands) by implementing the following measures.

1. Redesign or modify the project to avoid direct and indirect impacts on wetlands and streams, if feasible.
2. Avoid construction activities in saturated or ponded wetlands and streams during the wet season (spring and winter) to the maximum extent possible.

Where such activities are unavoidable, protective practices, such as use of padding or vehicles with balloon tires, shall be employed.

3. Where determined necessary by resource specialists, use geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, geotextile fabric) in saturated conditions to minimize damage to the substrate and vegetation.
4. Stabilize exposed slopes and streambanks immediately upon completion of construction activities. Other waters of the United States shall be restored in a manner that encourages vegetation to reestablish to its preproject condition and reduces the effects of erosion on the drainage system.
5. In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products.
6. During construction, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high-water mark of streams in a manner that minimizes disturbance of the drainage bed and bank.
7. In-stream construction within the ordinary high-water mark of Linda Creek shall be restricted to the low-flow period of April through October.
8. All activities shall be completed promptly to minimize their duration and resultant impacts.

These measures shall be incorporated into contract specifications and implemented by the construction contractor.

#### Mitigation Measure P8.1g: Confine Construction Equipment and Associated Activities to the Designated Work Zone in Areas That Support Wetland Resources

Construction equipment shall be confined to a designated work zone (that includes access roads) along the project corridor. Before construction begins, the work zone shall be clearly staked and flagged. During construction, construction monitors and resource monitors shall ensure that construction equipment and associated activities avoid disturbing sensitive resources outside the designated work zones.

#### Mitigation Measure P8.1h: Compensate for the Loss of Waters of the United States

If waters of the United States (including wetlands) are filled as part of the project, Placer County DPW shall compensate for permanent impacts to ensure no net loss of habitat functions and values. The compensation shall be provided at a minimum ratio of 2:1 (2 acres restored or created for every 1 acre filled) and may be a combination of onsite restoration/creation, offsite restoration, or mitigation credits. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies, as part of the permitting process for the project. Compensation options are presented below; however, any wetlands affected on Reclamation land must be restored on Reclamation land.

1. Purchase mitigation bank credits at a USFWS-approved ecosystem preservation bank. Wildland's Sheridan Ranch Conservation Bank in Placer County ranges from $44,000/acre for wetland mitigation. Before approval of the Improvement Plans, Placer County DPW shall provide written evidence to the DRC that compensatory habitat has been established through the purchase of mitigation credits. The amount to be paid shall be the fee that is in effect at the time the fee is paid. The estimated fee per alternative is as follows.

   Alternative 1: Widen Roadway to the West
   $7,392

   Alternative 2: Widen Roadway to the East
   $8,360

   Alternative 3: Widen Roadway Equally on Both Sides
   $6,600

   Alternative 4: County DPW–Preferred Alternative
   $8,800

OR

2. Contribute funds, equal to the amount needed to purchase mitigation bank credits, to restoration of wetlands and other waters in the Folsom Lake SRA, American River corridor, or other nearby lands that are publicly managed and will be protected in perpetuity. Placer County DPW shall coordinate with appropriate individuals to determine whether there is a potential to create, restore, or enhance waters of the United States at nearby preserved lands.

OR

3. Develop a wetland restoration plan that involves creating or enhancing wetland habitat on site or next to the project area. Potential creation and enhancement sites shall be evaluated by the County and Reclamation to determine whether this is a feasible option. If Placer County DPW determines that onsite or offsite restoration is possible, a restoration plan will be developed that describes where and when restoration will occur and who will be responsible for developing, implementing, and monitoring the restoration plan. When this option is selected, restoration will be selected in an appropriate area in close proximity to the project area.

### Mitigation Measure P8.2a: Install Temporary Construction Fencing to Protect Trees

Placer County DPW shall install a 1.2-meter-tall (4-foot-tall), brightly colored (usually yellow or orange), synthetic mesh–material fence (or an equivalent approved by the DRC) at the following location before allowing any construction equipment to be moved onto the site and before any construction activities take place.

1. At the limits of construction, outside the dripline of all trees that are 15.2 centimeters (6 inches) dbh (diameter at breast height), or 25.4 centimeters (10 inches) dbh aggregate for multitrunk trees, within 15.2 meters (50 feet) of any grading, road improvements, underground utilities, or other development activity, or as otherwise shown on the site plan. All trees that are to be saved shall be fenced.

No construction activity, including grading, shall be allowed until this condition is satisfied. Any encroachment within these areas, such as within the driplines of trees to be saved, must first be approved by the DRC. No grading, clearing, or storage of equipment or machinery, or similar activity, may occur until a representative of the DRC has inspected and approved all temporary construction fencing. The temporary fencing shall be maintained until all construction activities are complete. No grading, trenching, or movement of construction equipment shall be allowed within fenced areas.

Protection for native trees on slopes shall include installation of a silt fence. A silt fence shall be installed at the upslope base of the protective fence to prevent soil from drifting down over the root zone.

Efforts shall be made to save trees where feasible. These efforts may include the use of retaining walls or other techniques commonly associated with tree preservation.

The temporary construction fencing and a note reflecting this condition shall be shown on the Improvement Plans.

### Mitigation Measure P8.2b: Compensate for Permanent Impacts on Riparian Communities

Placer County DPW shall compensate for permanent impacts on riparian communities by implementing one or a combination of the following options. The compensation shall be provided at a minimum ratio of 2:1 (2 acres restored or created for every 1 acre filled) and may be a combination of onsite restoration/creation, offsite restoration, or mitigation credits. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies, as part of the permitting process for the project. Compensation options are presented below; however, any riparian communities affected on Reclamation land must be restored on Reclamation land.

1. Purchase mitigation bank credits at a locally approved bank. Wildland's Sheridan Ranch Conservation Bank in Placer County ranges from \$49,000/acre for riparian mitigation. Before approval of the Improvement Plans, Placer County DPW shall provide written evidence to the DRC that compensatory habitat has been established through the purchase of mitigation credits. The amount to be paid shall be the fee that is in effect at the time the fee is paid. The estimated fee per alternative is as follows.

The estimated fee per alternative is as follows.

Alternative 1: Widen Roadway to the West
$4,900

Alternative 2: Widen Roadway to the East
$10,780

Alternative 3: Widen Roadway Equally on Both Sides
$6,860

Alternative 4: County DPW–Preferred Alternative
$9,800

OR

2. Contribute funds for riparian restoration activities in the Folsom Lake SRA, American River corridor, or other public lands. Placer County DPW shall contact appropriate individuals to determine whether there is a potential to create, restore, or enhance riparian habitat within these preserves.

OR

3. Develop a riparian restoration plan that involves creating or enhancing riparian habitat in the project area. Potential creation and enhancement sites shall be evaluated by the County and Reclamation to determine whether this is a feasible option. If Placer County DPW determines that onsite or offsite restoration is possible, a restoration plan will be developed that describes where and when restoration will occur and who will be responsible for developing, implementing, and monitoring the restoration plan.

**Mitigation Measure P8.2c: Update the Tree Survey Report for the Selected Alternative**

Placer County DPW shall provide the DRC with an updated tree survey report (by an International Society of Arboriculture- [ISA-] Certified Arborist) depicting the exact locations of the following:

1. trees that are 15.2 centimeters (6 inches) dbh (diameter at breast height) or larger and that grow within 15.2 meters (50 feet) of any grading, road improvements, underground utilities, or other activities;
2. multitrunk trees that are 25.4 centimeters (10 inches) dbh or more (aggregate) and that grow within 15.2 meters (50 feet) of any grading, road improvements, underground utilities, or other activities;
3. trees that are 45.7 centimeters (18 inches) dbh or larger and that are located along the roadway corridor; and
4. trees that would be disturbed by offsite improvements (e.g., road improvements, underground utilities).

The tree survey report shall list the sizes (diameter at 1.2 meters [4 feet] above the ground), species of trees, spot elevations, and approximate driplines. The report also shall identify the trees to be saved, without disturbance, and those to be removed. The locations of trees to be saved and those to be removed shall be shown on the survey map and superimposed over the grading plan. This map also shall show all proposed improvements, including any underground utilities. The survey report shall be reviewed and approved by the DRC before any construction activity, including preliminary clearing or grading.

### Mitigation Measure P8.2d: Avoid and Minimize Disturbance of Riparian Communities

To the extent possible, Placer County DPW shall avoid impacts on riparian communities by implementing the following measures.

1. Redesign or modify the project to avoid direct and indirect impacts on riparian habitats, if feasible.
2. Protect riparian habitats that are located near the project area by installing temporary construction fencing to protect the riparian vegetation. Depending on site-specific conditions, this buffer may be narrower or wider than 6 meters (20 feet). The locations of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive areas.
3. Minimize the potential for long-term loss of riparian vegetation by trimming vegetation rather than removing the entire shrub. Shrubs that need to be trimmed shall be cut at least 0.3 meter (1 foot) above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting shall be limited to the minimum area necessary within the construction zone. Cutting shall be allowed only for shrubs (all trees shall be avoided) in areas that do not provide habitat for sensitive species. To protect nesting birds, Reclamation does not allow pruning or removal of woody riparian vegetation from March 15 to July 31.
4. Require the contractor to perform any necessary pruning, including pruning for utility line clearance, using the "Pruning Guidelines" adopted by the California Department of Forestry and Fire Protection.
5. Inspect the areas that undergo vegetative pruning and tree removal immediately before construction, immediately after construction, and 1 year after construction to determine the amount of existing vegetative cover, cover that has been removed, and cover that resprouts. If, after 1 year, these areas have not resprouted sufficiently to return the cover to the preproject level, the contractor will be responsible for replanting the areas with the same species to reestablish the cover to the preproject condition.

### Mitigation Measure P8.3a: Obtain a Tree Permit

Before any construction activity, including grading or other site disturbance, Placer County DPW shall acquire a Tree Permit for the removal of trees 15 centimeters (6 inches) dbh or larger and multitrunked trees with an aggregate diameter of 30 centimeters (10 inches) dbh or more.

### Mitigation Measure P8.3b: Mitigate Tree Removal

Trees identified for removal and trees with disturbance within their driplines shall be replaced along the corridor as feasible.

1. Trees removed from Reclamation property shall be replaced on Reclamation property on an inch-by-inch basis. For example, if 254 centimeters (100 inches) of tree diameter are proposed to be removed, the replacement trees shall be equal to 254 centimeters (100 inches) in diameter (aggregate). If feasible, seedlings should be from acorns collected within 30 miles of the project location in Placer or Sacramento Counties in the American River watershed and between the elevations of 100 and 800 feet. A 3-year monitoring and maintenance plan for the trees and any irrigation shall be required. The expectation is that there will be 100% survival for the replacement trees at the end of 3 years. Tree replacement on Reclamation property shall take place in close proximity to the project corridor.
2. In lieu of 50% of the mitigation for tree removal that is not on Reclamation property, a contribution to the Placer County Tree Preservation Fund shall be required. The value is based on 50% of the overall replacement estimate, which shall be submitted to the Placer County Development Review Committee (DRC) for review and approval.
3. The trees shall be installed by the contractor and inspected and approved by Placer County DPW before completion of the project. At its discretion, the DRC may establish an alternate deadline for installation of replacement trees if weather or other circumstances prevent the completion of this requirement before completion of the project.
4. For native trees removed from private lands, Placer County DPW may either:
   - replace the trees on the private lands with one 15-gallon native tree for each tree removed or
   - contribute money into the Placer County Tree Preservation Fund.

### Mitigation Measure P8.3c: Revegetate All Disturbed Areas

Placer County DPW or an approved contractor shall revegetate all disturbed areas. Revegetation undertaken between April 1 and October 1 shall include regular watering to ensure adequate growth. A winterization plan shall be provided with project Improvement Plans. It is Placer County DPW's responsibility to ensure proper installation and maintenance of erosion control/winterization during project construction. Placer County DPW shall provide for erosion control where roadside drainage is off of the pavement.

Placer County DPW shall maintain a letter of credit, surety bond, or cash deposit in the amount of 100% of an approved engineer's estimate for winterization and permanent erosion control work before Improvement Plan approval to guarantee protection against erosion and improper grading practices.

### Mitigation Measure P8.3d: Install Temporary Construction Fencing to Protect Trees

Placer County DPW shall install a 1.2-meter-tall (4-foot-tall), brightly colored (usually yellow or orange), synthetic mesh–material fence (or an equivalent approved by the DRC) at the following location before allowing any construction equipment to be moved onto the site and before any construction activities take place.

1. At the limits of construction, outside the dripline of all trees that are 15.2 centimeters (6 inches) dbh (diameter at breast height), or 25.4 centimeters (10 inches) dbh aggregate for multitrunk trees, within 15.2 meters (50 feet) of any grading, road improvements, underground utilities, or other development activity, or as otherwise shown on the site plan. All trees that are to be saved shall be fenced.

No construction activity, including grading, shall be allowed until this condition is satisfied. Any encroachment within these areas, such as within the driplines of trees to be saved, must first be approved by the DRC. No grading, clearing, or storage of equipment or machinery, or similar activity, may occur until a representative of the DRC has inspected and approved all temporary construction fencing. The temporary fencing shall be maintained until all construction activities are complete. No grading, trenching, or movement of construction equipment shall be allowed within fenced areas.

Protection for native trees on slopes shall include installation of a silt fence. A silt fence shall be installed at the upslope base of the protective fence to prevent soil from drifting down over the root zone.

Efforts shall be made to save trees where feasible. These efforts may include the use of retaining walls or other techniques commonly associated with tree preservation.

The temporary construction fencing and a note reflecting this condition shall be shown on the Improvement Plans.

### Mitigation Measure P8.3e: Update the Tree Survey Report for the Selected Alternative

Placer County DPW shall provide the DRC with an updated tree survey report (by an ISA-Certified Arborist) depicting the exact locations of the following:

1. trees that are 15.2 centimeters (6 inches) dbh (diameter at breast height) or larger and that grow within 15.2 meters (50 feet) of any grading, road improvements, underground utilities, or other activities;
2. multitrunk trees that are 25.4 centimeters (10 inches) dbh or more (aggregate) and that grow within 15.2 meters (50 feet) of any grading, road improvements, underground utilities, or other activities;
3. trees that are 45.7 centimeters (18 inches) dbh or larger and that are located along the roadway corridor; and

4. trees that would be disturbed by offsite improvements (e.g., road improvements, underground utilities).

The tree survey report shall list the sizes (diameter at 1.2 meters [4 feet] above the ground), species of trees, spot elevations, and approximate driplines. The report also shall identify the trees to be saved, without disturbance, and those to be removed. The locations of trees to be saved and those to be removed shall be shown on the survey map and superimposed over the grading plan. This map also shall show all proposed improvements, including any underground utilities. The survey report shall be reviewed and approved by the DRC before any development activity on site, including preliminary clearing or grading.

**Mitigation Measure P8.4a: Complete Section 7 ESA Consultation with USFWS for Potential Impacts on VELB**

The project is subject to review and approval by USFWS. It is Placer County DPW's responsibility to obtain approval from USFWS before beginning any grading, clearing, or excavation.

**Mitigation Measure P8.4b: Establish a Minimum 6-Meter-Wide (20-Foot-Wide) Buffer around All Elderberry Shrubs That Will Not Be Removed**

Before any ground-disturbing activity, Placer County DPW shall ensure that a minimum 1.2-meter-tall (4-foot-tall) temporary, plastic mesh–type construction fence (Tensor Polygrid or equivalent) is installed at least 6 meters (20 feet) around the driplines of elderberry shrubs that are within 30.5 meters (100 feet) of the construction area but that will not be removed. This fencing is intended to prevent encroachment by construction vehicles and personnel. The exact location of the fencing shall be determined by a qualified biologist, with the goal of protecting sensitive biological resources (i.e., habitat for VELB). The fencing shall be strung tightly on posts set at a maximum interval of 3 meters (10 feet). The fencing shall be installed in a way that prevents equipment from enlarging the work area beyond the area necessary to complete the work. The fencing shall be checked and maintained weekly until all construction is completed. This buffer zone shall be marked by a sign stating, "This is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment."

No construction activity, including grading, shall be allowed until this condition is satisfied. No grading, clearing, storage of equipment or machinery, or other disturbance or activity may occur until a representative of Reclamation has inspected and approved all temporary construction fencing. The fencing and a note reflecting this condition shall be shown on the Improvement Plans.

**Mitigation Measure P8.4c: Implement Dust Control Measures**

Placer County DPW shall ensure that dust control measures are implemented for all ground-disturbing activities in the project area. These measures may include application of water to graded and disturbed areas that are unvegetated. To avoid attracting Argentine ants, at no time shall water be sprayed within the driplines of elderberry plants.

### Mitigation Measure P8.4d: Transplant Elderberry Shrubs That Cannot Be Avoided

Placer County DPW shall ensure that all elderberry shrubs with one or more stems measuring 2.5 centimeters (1.0 inch) or more in diameter, and that cannot be avoided during construction, shall be transplanted to a conservation area in accordance with USFWS's *Conservation Guidelines for Valley Elderberry Longhorn Beetle* (U.S. Fish and Wildlife Service 1999). In the event that an elderberry shrub is unlikely to survive transplantation because of poor condition or location, the shrub may be exempted from transplantation at the discretion of USFWS.

Implementation of Alternative 1 would require transplanting three elderberry shrubs, and implementation of Alternative 2, 3, or 4 would require transplanting five elderberry shrubs.

### Mitigation Measures P8.4e: Compensate for the Removal or Destruction of Valley Elderberry Longhorn Beetle Habitat

Placer County DPW shall compensate for the removal or destruction of all elderberry stems that measure 2.5 centimeters (1 inch) or more at ground level (VELB habitat) and that are located within 6 meters (20 feet) of construction activities. Compensation shall include planting replacement elderberry seedlings or cuttings and associated native plantings within a USFWS-approved conservation area at a ratio between 1:1 and 8:1 (new plantings to affected stems), depending on the diameter of the stem at ground level (see Table 8-6), the presence or absence of exit holes, and whether the shrub is located in riparian habitat as indicated in the USFWS guidelines for VELB.

Placer County DPW shall compensate for all shrubs that are directly affected (i.e., removed/transplanted or destroyed) by the project. Placer County DPW shall compensate for direct effects on VELB habitat as described below. All calculations for compensation of VELB habitat are provided in the BA (Appendix J).

Purchase credits at the Wildland's Sheridan Ranch Conservation Bank in Placer County, a USFWS-approved mitigation bank. The cost to establish a conservation area for VELB at this bank is estimated to be $1,500 per unit; each unit includes five elderberry seedlings and five associated riparian plantings. Only whole units can be purchased using compensation ratios identified in the USFWS guidelines for VELB and based on stem counts listed in Table 8-6. Alternative 1 would require the purchase of two mitigation credits (nine elderberry seedlings and seven native plantings), for an approximate cost of $3,000, and Alternatives 2, 3, and 4 would require the purchase of three mitigation credits (14 elderberry seedlings and 11 native plantings) for an approximate cost of $4,500. The exact cost to purchase mitigation credits for project-related impacts would be determined during formal consultation with USFWS.

### Mitigation Measure P8.4f: Conduct Mandatory Contractor/Worker Awareness Training for Construction Personnel

Before any work occurs in the project area, including grading, a USFWS-approved biologist shall conduct mandatory contractor/worker awareness training for construction personnel. If new construction personnel are added to the project, the contractor shall ensure that the personnel receive the mandatory training before starting work. This measure is also specified in the BA for the proposed project.

### Mitigation Measure P8.5: Conduct a Preconstruction Survey for Northwestern Pond Turtle at the Baldwin Reservoir Canal

Placer County DPW shall retain a qualified wildlife biologist to conduct a preconstruction northwestern pond turtle survey at the Baldwin Reservoir canal. The preconstruction survey shall be conducted at most 24 hours before the start of construction activities at the canal. If a northwestern pond turtle is located in the construction area, the biologist shall relocate the turtle downstream of the project area, toward Baldwin Reservoir, and an exclusion fence shall be installed to prevent the movement of turtles back into the construction area.

### Mitigation Measure P8.6a: Conduct a Focused Preconstruction Survey for Raptor Nests and Nesting Birds

Before grading and during the raptor nesting season (March through July), a qualified raptor biologist shall conduct a focused survey for raptor nests in areas potentially affected by project implementation. If construction is proposed to take place during the raptor breeding season, no construction activity shall take place within 152.4 meters (500 feet) of an active nest until the young have fledged (as determined by a qualified raptor biologist). A note to this effect shall be placed on the Improvement Plans. A copy of the survey shall be provided to the Placer County DPW, Reclamation, and DFG. If an active raptor nest is identified on site, appropriate mitigation measures shall be developed and implemented in consultation with DFG.

### Mitigation Measure P8.6b: Avoid Disturbance of Nesting Special-Status and Non-Special-Status Migratory Birds and Raptors

To avoid impacts on nesting loggerhead shrike, oak titmouse, white-tailed kite, or other non-special-status migratory birds and raptors, Placer County DPW shall implement the following avoidance and minimization measures.

1. To the extent possible, shrub and tree removal activities associated with the project shall be conducted outside the breeding season (which generally occurs between March 1 and August 15) for migratory birds and raptors.
2. If shrub and tree removal activities are to take place during the breeding season for these species, a qualified wildlife biologist shall be hired to conduct focused nest surveys for active loggerhead shrike, oak titmouse, white-tailed kite, and non-special-status migratory bird and raptor nests.
3. If active loggerhead shrike, white-tailed kite, or other non-special-status raptor nests are found in the project area, and if construction activities must occur during the nesting period, Placer County DPW shall consult DFG to

determine and implement appropriate "no-disturbance" buffers around the nest sites until the young have fledged (as determined by a qualified biologist).

4. If active oak titmouse or other non-special-status migratory bird nests are found in the project area, and if construction activities must occur during the nesting period, Placer County DPW shall consult USFWS to develop and implement a memorandum of understanding (MOU) to promote the conservation of migratory bird populations.

**Mitigation Measure P8.7: Avoid Disturbance of Nesting Swallows**
To avoid impacts on nesting swallows, Placer County DPW shall implement the following avoidance and minimization measures.

1. To the extent possible, construction activities that could disturb nesting swallows shall be conducted outside the breeding season (which generally occurs between March 1 and September 1) for these species.
2. If construction activities are to take place during the swallows' breeding season, Placer County DPW shall hire a qualified biologist to inspect the concrete box culvert at the Baldwin Reservoir canal during the swallows' nonbreeding season. If nests are found and are abandoned, they may be removed. To avoid damaging active nests, nests must be removed before the breeding season begins (March 1). A permit from DFG and USFWS is required if active nests must be removed.
3. After nests are removed, the underside of the concrete box culvert at the Baldwin Reservoir canal shall be covered with 1.3- to 1.9-centimeter (0.5- to 0.75-inch) mesh net or poultry wire. All net installation shall occur before March 1. The netting shall be anchored so swallows cannot attach their nests to the bridge through gaps in the net.
4. If netting of the concrete box culvert at the Baldwin Reservoir canal does not occur by March 1 and swallows colonize the bridge, modifications to this structure shall not begin before September 1 of that year or until the young have fledged and all nest use has been completed.
5. If appropriate steps are taken to prevent swallows from constructing new nests, work can proceed at any time of the year.

## Recommended Mitigation Measures

There are no recommended biological resources mitigation measures.

**Table 8-8.** Biological Resources Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **BIOLOGICAL RESOURCES** | | | | |
| Impact 8.1 Potential Disturbance or Loss of Waters of the United States (Including Wetlands) | | | | |
| Quantitative Comparison | Loss of 0.033 hectare (0.084 acre) of waters of the United States, including wetlands | Loss of 0.038 hectare (0.095 acre) of waters of the United States, including wetlands | Loss of 0.030 hectare (0.075 acre) of waters of the United States, including wetlands | Loss of 0.04hectare (0.10 acre) of waters of the United States, including wetlands |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P8.1a: Obtain a Section 404 Permit from the Corps<br>P8.1b: Obtain a Section 401 Water Quality Certification or Waiver from the Central Valley RWQCB<br>P8.1c: Obtain a Section 1601 Streambed Alteration Agreement from DFG<br>P8.1d: Pay Appropriate Environmental Document Review Fee<br>P8.1e: Install Temporary Construction Fencing to Protect Wetlands<br>P8.1f: Avoid and Minimize Disturbance of Waters of the United States, Including Wetlands | P8.1a: Obtain a Section 404 Permit from the Corps<br>P8.1b: Obtain a Section 401 Water Quality Certification or Waiver from the Central Valley RWQCB<br>P8.1c: Obtain a Section 1601 Streambed Alteration Agreement from DFG<br>P8.1d: Pay Appropriate Environmental Document Review Fee<br>P8.1e: Install Temporary Construction Fencing to Protect Wetlands<br>P8.1f: Avoid and Minimize Disturbance of Waters of the United States, Including Wetlands | P8.1a: Obtain a Section 404 Permit from the Corps<br>P8.1b: Obtain a Section 401 Water Quality Certification or Waiver from the Central Valley RWQCB<br>P8.1c: Obtain a Section 1601 Streambed Alteration Agreement from DFG<br>P8.1d: Pay Appropriate Environmental Document Review Fee<br>P8.1e: Install Temporary Construction Fencing to Protect Wetlands<br>P8.1f: Avoid and Minimize Disturbance of Waters of the United States, Including Wetlands | P8.1a: Obtain a Section 404 Permit from the Corps<br>P8.1b: Obtain a Section 401 Water Quality Certification or Waiver from the Central Valley RWQCB<br>P8.1c: Obtain a Section 1601 Streambed Alteration Agreement from DFG<br>P8.1d: Pay Appropriate Environmental Document Review Fee<br>P8.1e: Install Temporary Construction Fencing to Protect Wetlands<br>P8.1f: Avoid and Minimize Disturbance of Waters of the United States, Including Wetlands |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| | P8.1g: Confine Construction Equipment and Associated Activities to the Designated Work Zone in Areas That Support Wetland Resources<br>P8.1h: Compensate for the Loss of Waters of the United States | P8.1g: Confine Construction Equipment and Associated Activities to the Designated Work Zone in Areas That Support Wetland Resources<br>P8.1h: Compensate for the Loss of Waters of the United States | P8.1g: Confine Construction Equipment and Associated Activities to the Designated Work Zone in Areas That Support Wetland Resources<br>P8.1h: Compensate for the Loss of Waters of the United States | P8.1g: Confine Construction Equipment and Associated Activities to the Designated Work Zone in Areas That Support Wetland Resources<br>P8.1h: Compensate for the Loss of Waters of the United States |
| Quantitative Comparison of Mitigation Requirements | Option 1 of P8.1i would cost $7,392 | Option 1 of P8.1i would cost $8,360 | Option 1 of P8.1i would cost $6,600 | Option 1 of P8.1i would cost $8,800 |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.2 Potential Loss or Disturbance of Valley Foothill Riparian Forest | | | | |
| Quantitative Comparison | Loss of 0.02 hectare (0.05 acre) of valley foothill riparian forest | Loss of 0.04 hectare (0.11 acre) of valley foothill riparian forest | Loss of 0.03 hectare (0.07 acre) of valley foothill riparian forest | Loss of 0.04hectare (0.10 acre) of valley foothill riparian forest |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P8.2a: Install Temporary Construction Fencing to Protect Trees<br>P8.2b: Compensate for Permanent Impacts on Riparian Communities<br>P8.2c: Update the Tree Survey Report for the Selected Alternative<br>P8.2d: Avoid and Minimize Disturbance of Riparian Communities | P8.2a: Install Temporary Construction Fencing to Protect Trees<br>P8.2b: Compensate for Permanent Impacts on Riparian Communities<br>P8.2c: Update the Tree Survey Report for the Selected Alternative<br>P8.2d: Avoid and Minimize Disturbance of Riparian Communities | P8.2a: Install Temporary Construction Fencing to Protect Trees<br>P8.2b: Compensate for Permanent Impacts on Riparian Communities<br>P8.2c: Update the Tree Survey Report for the Selected Alternative<br>P8.2d: Avoid and Minimize Disturbance of Riparian Communities | P8.2a: Install Temporary Construction Fencing to Protect Trees<br>P8.2b: Compensate for Permanent Impacts on Riparian Communities<br>P8.2c: Update the Tree Survey Report for the Selected Alternative<br>P8.2d: Avoid and Minimize Disturbance of Riparian Communities |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Quantitative Comparison of Mitigation Requirements | Option 1 of P8.2b would cost $4,900 | Option 1 of P8.2b would cost $10,780 | Option 1 of P8.2b would cost $6,860 | Option 1 of P8.2b would cost $9,800 |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.3 Loss or Disturbance of Blue Oak–Digger Pine Woodland and Native Trees | | | | |
| Quantitative Comparison | Loss of 371 trees, including 195 oaks and 101 other native trees | Loss of 389 trees, including 267 oaks and 92 other native trees | Loss of 364 trees, including 254 oaks and 64 other native trees | Loss of 346 trees, including 242 oaks and 71 other native trees |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P8.3a: Obtain a Tree Permit<br>P8.3b: Mitigate Tree Removal<br>P8.3c: Revegetate All Disturbed Areas<br>P8.3d: Install Temporary Construction Fencing to Protect Trees<br>P8.3e: Update the Tree Survey Report for the Selected Alternative | P8.3a: Obtain a Tree Permit<br>P8.3b: Mitigate Tree Removal<br>P8.3c: Revegetate All Disturbed Areas<br>P8.3d: Install Temporary Construction Fencing to Protect Trees<br>P8.3e: Update the Tree Survey Report for the Selected Alternative | P8.3a: Obtain a Tree Permit<br>P8.3b: Mitigate Tree Removal<br>P8.3c: Revegetate All Disturbed Areas<br>P8.3d: Install Temporary Construction Fencing to Protect Trees<br>P8.3e: Update the Tree Survey Report for the Selected Alternative | P8.3a: Obtain a Tree Permit<br>P8.3b: Mitigate Tree Removal<br>P8.3c: Revegetate All Disturbed Areas<br>P8.3d: Install Temporary Construction Fencing to Protect Trees<br>P8.3e: Update the Tree Survey Report for the Selected Alternative |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.4 Potential Mortality of Individual Valley Elderberry Longhorn Beetles or Disturbance of Habitat | | | | |
| Quantitative Comparison | Direct impacts on three shrubs and indirect impacts on four shrubs | Direct impacts on five shrubs and indirect impacts on three shrubs | Direct impacts on five shrubs and indirect impacts on three shrubs | Direct impacts on five shrubs and indirect impacts on four shrubs |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P8.4a: Complete | P8.4a: Complete | P8.4a: Complete | P8.4a: Complete |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| | Section 7 ESA Consultation with USFWS for Potential Impacts on VELB<br>P8.4b: Establish a Minimum 6-Meter-Wide (20-Foot-Wide) Buffer around All Elderberry Shrubs That Will Not Be Removed<br>P8.4c: Implement Dust Control Measures<br>P8.4d: Transplant Elderberry Shrubs That Cannot Be Avoided<br>P8.4e: Compensate for the Removal or Destruction of Valley Elderberry Longhorn Beetle Habitat<br>P8.4f: Conduct Mandatory Contractor/Worker Awareness Training for Construction Personnel | Section 7 ESA Consultation with USFWS for Potential Impacts on VELB<br>P8.4b: Establish a Minimum 6-Meter-Wide (20-Foot-Wide) Buffer around All Elderberry Shrubs That Will Not Be Removed<br>P8.4c: Implement Dust Control Measures<br>P8.4d: Transplant Elderberry Shrubs That Cannot Be Avoided<br>P8.4e: Compensate for the Removal or Destruction of Valley Elderberry Longhorn Beetle Habitat<br>P8.4f: Conduct Mandatory Contractor/Worker Awareness Training for Construction Personnel | Section 7 ESA Consultation with USFWS for Potential Impacts on VELB<br>P8.4b: Establish a Minimum 6-Meter-Wide (20-Foot-Wide) Buffer around All Elderberry Shrubs That Will Not Be Removed<br>P8.4c: Implement Dust Control Measures<br>P8.4d: Transplant Elderberry Shrubs That Cannot Be Avoided<br>P8.4e: Compensate for the Removal or Destruction of Valley Elderberry Longhorn Beetle Habitat<br>P8.4f: Conduct Mandatory Contractor/Worker Awareness Training for Construction Personnel | Section 7 ESA Consultation with USFWS for Potential Impacts on VELB<br>P8.4b: Establish a Minimum 6-Meter-Wide (20-Foot-Wide) Buffer around All Elderberry Shrubs That Will Not Be Removed<br>P8.4c: Implement Dust Control Measures<br>P8.4d: Transplant Elderberry Shrubs That Cannot Be Avoided<br>P8.4e: Compensate for the Removal or Destruction of Valley Elderberry Longhorn Beetle Habitat<br>P8.4f: Conduct Mandatory Contractor/Worker Awareness Training for Construction Personnel |
| Quantitative Comparison of Mitigation Requirements | P8.4d requires transplanting of 3 elderberry shrubs<br>Option 1 of P8.4e would cost $3,000<br>Option 3 of P8.4d would require 0.03 hectare (0.08 acre) of conservation area | P8.4d requires transplanting of 5 elderberry shrubs<br>Option 1 of P8.4e would cost $4,500<br>Option 3 of P8.4d would require 0.05 hectare (0.12 acre) of conservation area | P8.4d requires transplanting of 5 elderberry shrubs<br>Option 1 of P8.4e would cost $4,500<br>Option 3 of P8.4d would require 0.05 hectare (0.12 acre) of conservation area | P8.4d requires transplanting of 5 elderberry shrubs<br>Option 1 of P8.4e would cost $4,500<br>Option 3 of P8.4d would require 0.05 hectare (0.12 acre) of conservation area |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.5 Potential Mortality of Northwestern Pond Turtles | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | PS | PS | PS | PS |
| Mitigation Measures | P8.5: Conduct a Preconstruction Survey for Northwestern Pond Turtle at the Baldwin Reservoir Canal | P8.5: Conduct a Preconstruction Survey for Northwestern Pond Turtle at the Baldwin Reservoir Canal | P8.5: Conduct a Preconstruction Survey for Northwestern Pond Turtle at the Baldwin Reservoir Canal | P8.5: Conduct a Preconstruction Survey for Northwestern Pond Turtle at the Baldwin Reservoir Canal |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.6 Potential Disturbance of Nesting Loggerhead Shrike, Oak Titmouse, White-Tailed Kite, and Non-Special-Status Nesting Migratory Birds and Raptors | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | PS | PS | PS | PS |
| Mitigation Measures | P8.6a: Conduct a Focused Preconstruction Survey for Raptor Nests and Nesting Birds<br>P8.6b: Avoid Disturbance of Nesting Special-Status and Non-Special-Status Migratory Birds and Raptors | P8.6a: Conduct a Focused Preconstruction Survey for Raptor Nests and Nesting Birds<br>P8.6b: Avoid Disturbance of Nesting Special-Status and Non-Special-Status Migratory Birds and Raptors | P8.6a: Conduct a Focused Preconstruction Survey for Raptor Nests and Nesting Birds<br>P8.6b: Avoid Disturbance of Nesting Special-Status and Non-Special-Status Migratory Birds and Raptors | P8.6a: Conduct a Focused Preconstruction Survey for Raptor Nests and Nesting Birds<br>P8.6b: Avoid Disturbance of Nesting Special-Status and Non-Special-Status Migratory Birds and Raptors |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.7 Potential Disturbance of Nesting Cliff and Barn Swallows | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | PS | PS | PS | PS |

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Mitigation Measures | P8.7: Avoid Disturbance of Nesting Swallows | P8.7: Avoid Disturbance of Nesting Swallows | P8.7: Avoid Disturbance of Nesting Swallows | P8.7: Avoid Disturbance of Nesting Swallows |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 8.8 Potential Disturbance of Common Wildlife Species | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |

Key:

SU = Significant and unavoidable.

S = Significant.

PS = Potentially significant.

LS = Less than significant.

NI = No impact.

NA = Not applicable.

# Chapter 9
# Earth Resources

This chapter describes the geology, soils, and minerals of the project area, identifies known geologic and seismic hazards, discusses regulations and policies relevant to the proposed project, and identifies potential impacts of the project on geology, soils, and minerals. The content of this chapter is based on the preliminary geotechnical report prepared for the proposed project (Anderson Consulting Group 2002), the most recent maps and earth resource information published by the U.S. Geological Survey (USGS), the California Geological Survey (CGS) (previously known as the California Division of Mines and Geology), SCS, and the professional knowledge and experience of Jones & Stokes earth scientists.

## Affected Environment

### Environmental Setting

#### Geology

The project corridor is located at the base of the Sierra Nevada foothills, which flank the eastern side of the Sacramento Valley. Topography in the general vicinity of the project corridor is nearly level to moderately steep, with slopes ranging from 2 to 30% (Rogers 1980).

The relatively large-scale geologic map compiled by Anderson Consulting Group (2002) (Figure 9-1), based on Division of Mines and Geology Open File Report 84-50 (Loyd 1984) and reconnaissance-level field surveys, shows three geologic units in the proposed project corridor: Mesozoic granitic rocks of the Sierra Nevada Batholith, the Mehrten Formation, and Quaternary alluvium and colluvium. All three units are common in the foothills of the Sierra Nevada. There are no unique geologic features or formations in or adjacent to the project corridor.

The Mesozoic granitic rock intruded the area approximately 128 million years ago and ranges in composition from granite to diorite. The condition of granitic rock exposed on road cuts within the project corridor ranges from slightly to completely weathered. The Mehrten Formation rock units shown in Figure 9-1 were deposited on top of the granitic rock units from 3 to 5 million years ago.

The Mehrten Formation rock units observed on roadcuts in the proposed project corridor consist of Mehrten Conglomerate, which comprises rounded to subrounded cobbles in a moderately cemented siltstone-sandstone matrix. (Anderson Consulting Group 2002).

The Quaternary alluvial and colluvial deposits shown in Figure 9-1 are thin layers of unconsolidated sediments and soil materials that have been deposited on top of the granitic and Mehrten Formation rock units. Although not shown in Figure 9-1, Anderson Consulting Group (2002) also observed small units of fill material along portions of the project alignment where the original grade has been raised for the existing roadway.

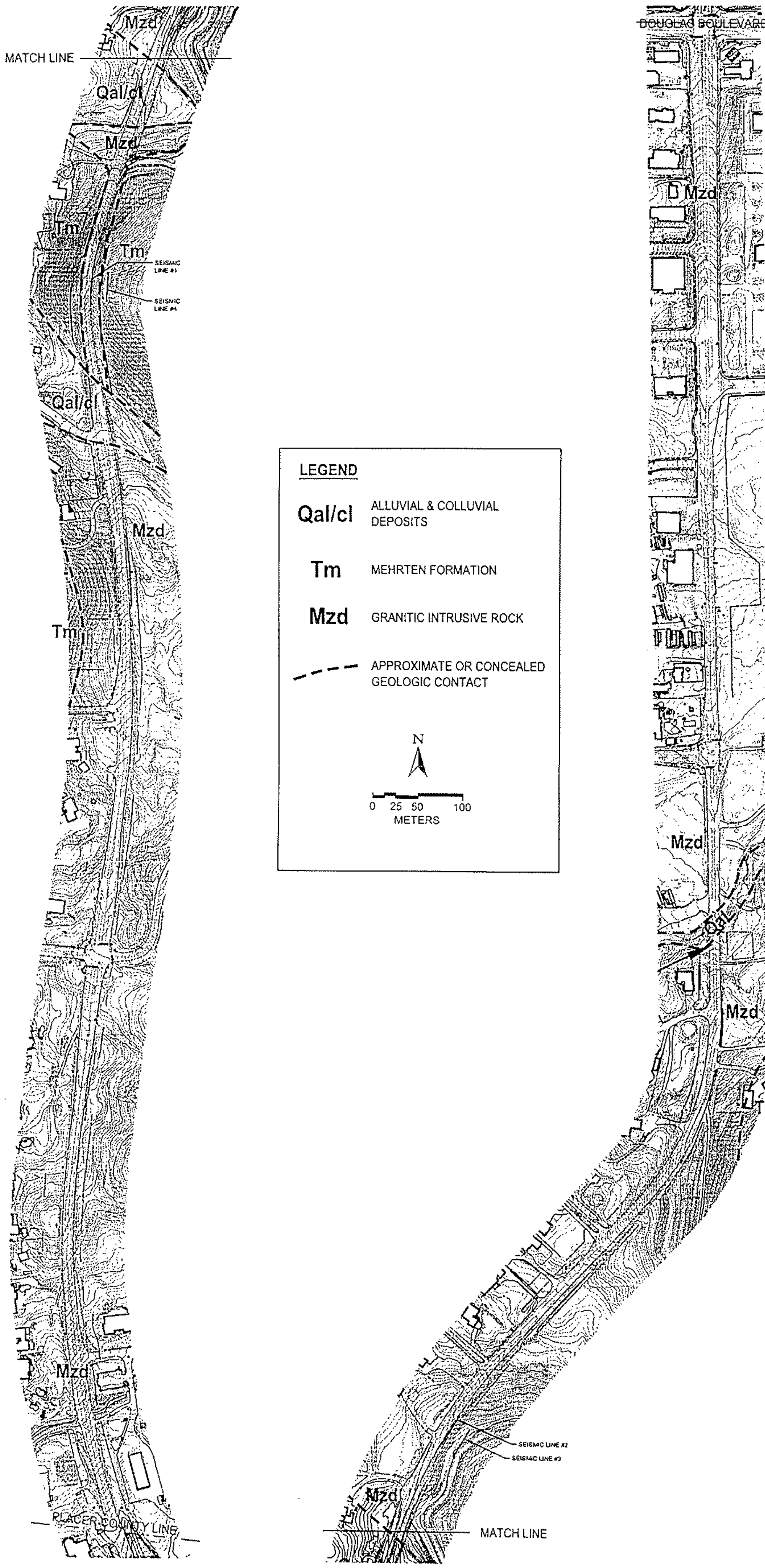
## Soils

The soil survey of western Placer County (Rogers 1980) indicates that there are eight soil map units located in and adjacent to the project corridor (Figure 9-2, Table 9-1).

Most of the project corridor is underlain by soil map units 106, 107, 110, 111, and 113. All of these map units primarily comprise the Andregg coarse sandy loam soil, which is a well-drained, moderately deep, and relatively coarse-textured soil that formed from weathered granitic bedrock. Largely because of its coarse texture, the Andregg coarse sandy loam soil has moderately rapid permeability and a low shrink-swell potential. In map unit 113, the Andregg soil is interspersed with soils of the Shenandoah series, which are somewhat poorly drained soils that have a clayey, very slowly permeable subsurface horizon. When disturbed, runoff from the above-listed soil map units ranges from medium to rapid, and the erosion hazard ranges from moderate to high. The differences in runoff potential and erosion hazard between these map units primarily are caused by differences in slope gradient (Table 9-1).

A small portion of the southern half of the project corridor is underlain by soil map unit 152, which primarily comprises the Inks cobbly loam soil. The Inks cobbly loam soil is a well-drained, moderately deep to deep soil that formed from the andesitic conglomerate of the Mehrten Formation (described above). It typically consists of a cobbly loam surface layer underlain by very cobbly clay loam and hard conglomerate bedrock at a depth of approximately 130 centimeters (51 inches). It is moderately permeable and has a low shrink-swell potential. When disturbed, runoff from map unit 152 ranges from medium to rapid, and the erosion hazard ranges from slight to high.

Most of the northern quarter of the proposed project corridor is underlain by soil map unit 196, which primarily comprises well-drained cut and fill materials that often contain rocks and fragments of concrete, asphalt, and other debris. Rogers (1980) indicates that when disturbed, runoff from map unit 196 is typically very rapid and the hazard of erosion is moderate.




Source: Anderson Consulting Group 2002.

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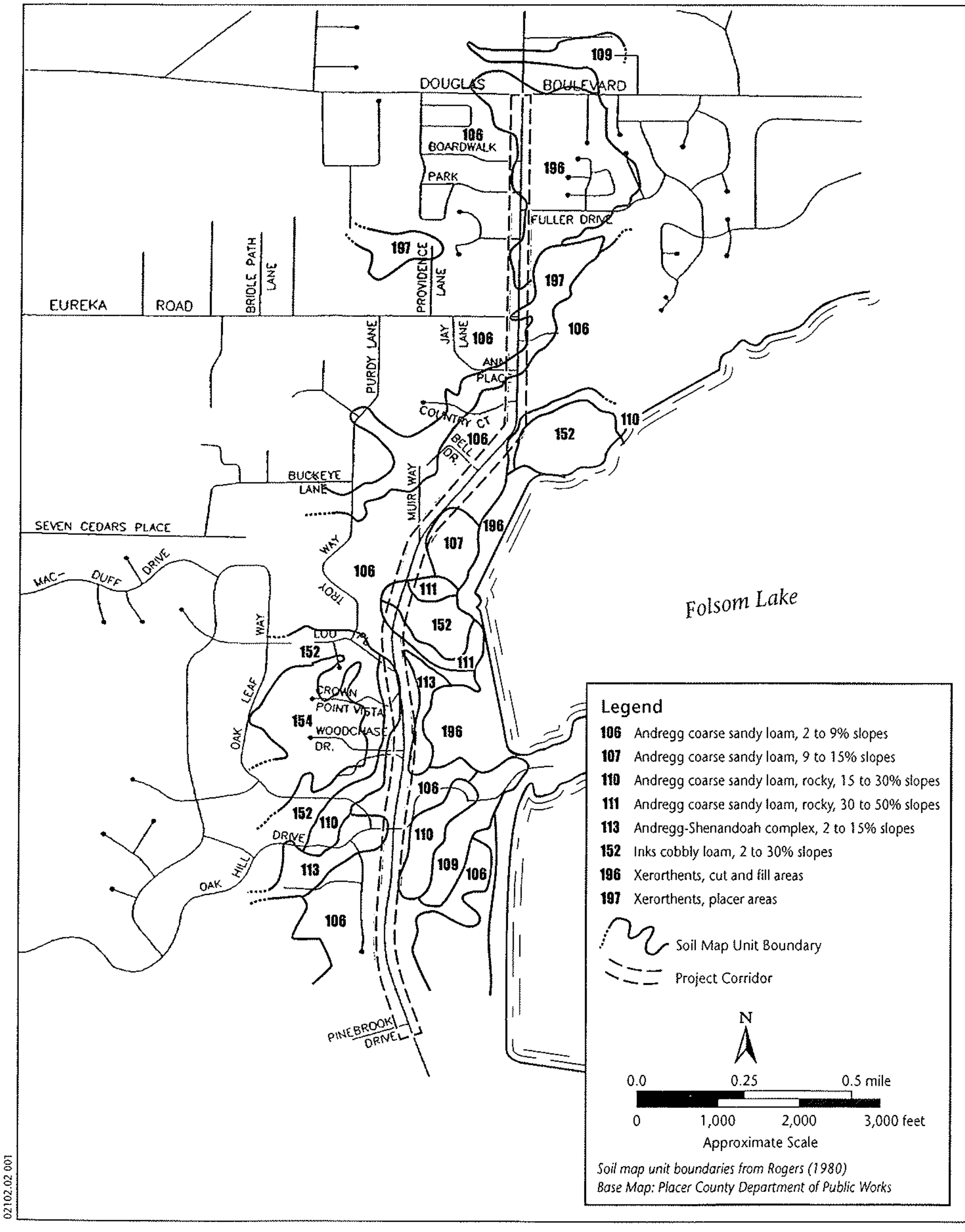
Jones & Stokes

**Figure 9-1**
**Geologic Map of the Project Corridor and Vicinity**




Jones & Stokes

**Figure 9-2**
**Soil Map of the Project Corridor and Vicinity**

**Table 9-1.** Soil Map Units Located in the Project Corridor

| Soil Map Unit | | Parent Material | Texture | Depth to Bedrock (inches) | Shrink-Swell Potential | Permeability | Runoff Potential | Erosion Hazard |
|---|---|---|---|---|---|---|---|---|
| 106 | Andregg coarse sandy loam, 2–9% slopes | Weathered granitic bedrock | Coarse sandy loam | 29 | Low | Moderately rapid | Medium | Moderate |
| 107 | Andregg coarse sandy loam, 9–15% slopes | Weathered granitic bedrock | Coarse sandy loam | 29 | Low | Moderately rapid | Medium | Moderate |
| 110 | Andregg coarse sandy loam, rocky, 15–30% slopes | Weathered granitic bedrock | Coarse sandy loam | 29 | Low | Moderately rapid | Medium–rapid | High |
| 111 | Andregg coarse sandy loam, rocky, 30–50% slopes | Weathered granitic bedrock | Coarse sandy loam | 29 | Low | Moderately rapid | Rapid | High |
| 113 | Andregg–Shenandoah complex, 2–15% slopes | Weathered granitic bedrock | Coarse sandy loam, sandy loam, clay | 29–34 | Low–high | Moderately rapid v. slow | Medium | Moderate |
| 152 | Inks cobbly loam, 2–30% slopes | Andesitic conglomerate | Cobbly loam, very cobbly clay loam | 51 | Low | Moderate | Medium–rapid | Slight–high |
| 196 | Xerorthents, cut and fill areas | Mixed soil materials | Various | ND | Variable | Variable | Very rapid | Moderate |
| 197 | Xerorthents, placer areas | Placer mine tailings | Stone, cobble, gravel, sand, silt | Variable | Variable | Variable | Variable | Variable |

Notes: Properties listed are for the dominant soil map unit component(s).
ND = no data available.

Source: Rogers 1980.

The portions of the proposed project alignment next to Linda Creek are underlain by soil map unit 197, which primarily comprises placer mine tailings. The tailings consist of poorly sorted or stratified stones, cobbles, and gravels that contain variable amounts of sand and silt. The physical properties of the tailings are highly variable and were not well characterized by Rogers (1980).

# Geologic and Seismic Hazards

## Slope Instability

Slope stability is a function of many factors, including rainfall, slope gradient, rock and soil type, slope orientation, vegetation, seismic conditions, and human activities. During his general discussion of geologic hazards in Placer County, Livingston (1976) indicated that steep slopes formed on fractured granitic rock may be susceptible to landslides and rock falls. Most of existing granitic cut slopes in the project corridor are steep (1:1 or steeper), but were found to be stable in their current configuration (Anderson Consulting Group 2002). The relative stability of natural slopes in the project corridor were not addressed directly by Anderson Consulting Group (2002), but because they are generally less steep than manufactured cut slopes in the area, it can be assumed that these slopes are also stable and generally not susceptible to landslides or rock falls.

## Expansive and Compressible Soils

High shrink-swell or "expansive" soils are typically those that contain a high percentage of expansive phyllosilicate clay minerals such as montmorillonite. Expansive soils swell when wet and shrink when dry and can cause substantial damage to foundations and roadways in the process. Most of the damage caused by expansive soils and sediments can be avoided through the implementation of proper design and construction techniques.

As described above and in Table 9-1, most of the soils along the proposed alignment are coarse or moderately coarse textured and have a low shrink-swell potential. Potentially expansive soils occur only at depth in a small section of the project corridor (Table 9-1, Figure 9-2).

Anderson Consulting Group (2002) found no evidence of soft, compressible soils along the project corridor during its literature review and reconnaissance-level field surveys.

## Faults and Fault Rupture

The California State Geology and Mining Board (the Board) has established policies and criteria for the classification of known faults in California based on the presence or absence of a detectable fault trace and the recentness of fault displacement (Hart and Bryant 1997). Detectable fault traces that show evidence of displacement during the last 10,000-11,000 years (i.e., Holocene faults) are defined as *active* and are considered to have the greatest potential for surface rupture. Detectable fault traces that show evidence of displacement between 10,000 and 1.6 million years ago (i.e., Quaternary faults) are defined as *potentially active,* and are considered to have less potential for surface rupture. The Board has not established an official category for faults that show no evidence of displacement during the last 1.6 million years (i.e., pre-Quaternary faults). Although such faults are not deemed "inactive", they are considered to have a relatively low potential for surface rupture.

No known faults or fault zones are located in or adjacent to the proposed project corridor (Jennings 1994). As such, the potential for surface fault rupture to adversely affect the proposed project is extremely low.

Faults and fault zones located in the general vicinity of the project area include the Deadman Fault, which crosses the northern arm of Folsom Lake, the Maidu Fault, which is located approximately 1.6–4.8 kilometers (1–3 miles) east of the lake, and the Bear Mountains Fault Zone, which crosses the southern arm of the lake. None of these faults/fault zones, nor any of the other known faults and fault zones located within 64 kilometers (40 miles) of the project area, are considered to be active or potentially active by the CGS (Jennings 1994).

## Seismic Ground Shaking

The proposed project area is located in a region of California characterized by relatively little seismic activity. In 1996, CDMG released a probabilistic seismic hazard assessment for the state of California (Open-File Report 96-08) to aid in the assessment of seismic ground shaking hazards in California (Peterson et al. 1996). The report contains a probabilistic seismic hazard map that depicts the peak horizontal ground acceleration values exceeded in a given region of California at a 10% probability in 50 years (i.e., a 0.2% probability in 1 year). The peak horizontal ground acceleration values depicted on the map represent probabilistic estimates of the ground shaking intensity likely to occur in different regions of California as a result of characteristic earthquake events on active and potentially active faults in California, and can be used to assess the relative seismic ground shaking hazard for a given region. The probabilistic peak horizontal ground acceleration values for the proposed project corridor range from 0.0g to 0.2g (where *g* is equal to the acceleration due to gravity), which indicate that the ground shaking hazard in the project corridor is very low-among the lowest in the state.

## Liquefaction

Liquefaction is a process by which soils and sediments lose shear strength and fail during episodes of intense seismic ground shaking. The susceptibility of a given soil or sediment to liquefaction is primarily a function of local groundwater conditions and inherent soil properties such as texture and bulk density. Poorly consolidated, well-graded, and water-saturated fine sands and silts located within 15 meters (50 feet) of the surface typically are considered the most susceptible to liquefaction.

Information contained in the soil survey and on the relatively large scale geologic map compiled by Loyd (1984) (Figure 9-1) suggest that most of the soils and underlying geologic units that occur within the project corridor (described above) do not posses properties that would make them susceptible to liquefaction. Further, there is no indication that the project corridor is underlain by a shallow groundwater table for a significant duration during normal rainfall years (Rogers 1980). When considered in conjunction with the low seismic ground shaking hazard associated with the project vicinity (Peterson et al. 1996), this information suggests that the potential for liquefaction to occur in the project area is low.

## Mineral Resources

According to the most recent Placer County General Plan Background Report (Placer County 1994) and the CGS mineral land classification of Placer County (Loyd 1995), known mineral resources in Placer County include aggregate (sand, gravel and decomposed granite), clay, gold, quartz, stone (granite, limestone, and crushed quarry rock), and other minerals and ores. No potential mineral resource sites or active mineral extraction operations are located in or immediately next to the project area. The closest mineral extraction sites to the project area are a sand and gravel operation and a placer gold mining operation located near the intersection of Douglas Boulevard and Sierra College Boulevard.

# Regulatory Setting

## Federal

### Section 402 of the Federal Clean Water Act

Section 402 of the Clean Water Act mandates that certain types of construction activity comply with the requirements of the U.S. Environmental Protection Agency's (EPA's) National Pollutant Discharge Elimination System (NPDES) stormwater program. Phase I of the NPDES storm water program regulations are currently in effect and require that construction activities disturbing 2 or more total hectares (5 or more total acres) obtain coverage under the NPDES general construction activity storm water permit issued by the California State Water Resources Control Board (SWRCB). Phase II of the NPDES storm water regulation goes into effect in March 2003, and requires that construction activities disturbing between 0.4 and 2.0 hectares (1 and 5 acres) also obtain coverage under the NPDES general construction activity storm water permit.

Because the proposed project would result in the disturbance of an area greater than 0.4 hectare (1 acre), the project proponent would need to obtain coverage under the NPDES general construction activity storm water permit. The Central Valley Regional Water Quality Control Board (RWQCB) administers the NPDES stormwater permit program for Placer County. Obtaining coverage under the NPDES general construction activity permit generally requires that the project applicant (i) file a notice of intent with the SWRCB describing the proposed construction activity *before* construction begins; (ii) prepare a Storm Water Pollution Prevention Plan (SWPPP) that describes the best management practices (BMPs) that will be implemented to control accelerated erosion, sedimentation, and other pollutants during and after project construction; and (iii) file a notice of termination with the SWRCB when construction is complete and the construction area has been permanently stabilized.

### Local

#### Placer County Grading and Erosion Prevention Ordinance

The Placer County grading and erosion prevention ordinance (Article 15.48 of Placer County Code) was enacted for the purpose of regulating grading on property within the unincorporated area of Placer County, in part to ensure that land grading activities do not result in accelerated erosion and sedimentation or the construction of potentially unstable cut and fill slopes. The ordinance requires project proponents to apply for and receive a grading permit from the Placer County Department of Public Works prior to the commencement of project construction. Grading conducted by or under the supervision or control of a public agency that assumes full responsibility for the work is typically exempt from this permit requirement. Because the proposed project would be implemented by the Placer County Department of Public Works, it would be exempt from obtaining a grading permit. However, the County Department of Public Works would still need to comply with other conditions and requirements listed in the County grading and erosion prevention ordinance, which would include but not be limited to the preparation of engineered grading plan and the preparation of a detailed erosion and sediment control plan.

# Environmental Consequences

## Criteria for Determining Significance under CEQA

Appendix G of the State CEQA Guidelines and standard professional practice were used to determine whether the proposed project would have a significant environmental effect. The proposed project may have a significant effect on earth resources, or may be affected by existing earth resource conditions or conditions that would result from implementation of the proposed project, if it would

- expose people or structures to substantial adverse effects resulting from the rupture of a known earthquake fault, seismic ground shaking, seismically induced landslides, or liquefaction;
- be located on a geologic unit or soil that is unstable or would become unstable as a result of the construction or operation of the proposed project;
- result in substantial change in topography or ground surface relief features;
- result in the destruction or substantial modification of any unique geologic features;
- result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state;
- result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan;
- result in substantial accelerated soil erosion and/or the loss of a substantial amount of topsoil;
- be located on an expansive soil that would create substantial risks to life or property; or
- have soils incapable of supporting the use of onsite wastewater disposal systems.

# Methods and Assumptions for the Impact Analysis

The following impact analysis is based on a review of relevant maps, reports, and other literature published by CGS, USGS, and SCS; a review of and the professional opinions rendered in a preliminary geotechnical report prepared for the proposed project by Anderson Consulting Group; and (iii) the professional opinion of Jones & Stokes earth scientists.

# Impacts

## Construction-Related Impacts

### Impact 9.1 Potential Construction-Related Soil Erosion and Sedimentation

Construction of the proposed project would involve land clearing, land grading, and other ground-disturbing activities that could temporarily increase soil erosion rates during and shortly after project construction. Construction-related erosion could result in the loss of a substantial amount of nonrenewable topsoil and could adversely affect water quality in nearby surface waters (as discussed in Chapter 5), such as Linda Creek.

This impact is common to all build alternatives and is considered significant. Implementation of Mitigation Measures P9.1a–e would reduce this potential impact to a less-than-significant level.

### Impact 9.2 Destruction of Unique Geologic Features

No unique geologic features are located in or adjacent to the project corridor. Therefore, there would be no impact under any of the build alternatives. No mitigation is required.

### Impact 9.3 Substantial Alteration of Existing Topography

Construction of the proposed project would involve the widening of existing roadway and would not substantially modify landforms or topography in the vicinity of the project corridor.

This impact is common to all build alternatives and is considered less than significant. No mitigation is required.

## Operation-Related Impacts

### Impact 9.4 Potential Mass Wasting

All of the existing cut slopes in the project corridor are steep (1:1 or steeper), but have been found to be stable in their current configuration (Anderson Consulting Group 2002). Likewise, natural slopes in the project corridor show no evidence of being unstable. The cut slopes that would be manufactured during implementation of the proposed project are not expected to be steeper than existing cut slopes, and would likely have similar factor of safety. If potential slope instabilities are identified during the final design stages of the proposed project, they would be stabilized through the implementation of appropriate, standard engineering methods. Therefore, onsite and offsite landslides or other types of mass wasting are unlikely to result from the construction or operation of the proposed project.

This impact is common to all build alternatives and is considered less than significant. No mitigation is required.

### Impact 9.5 Potentially Expansive Soils and Sediments

Soils along most of project corridor are coarse- or moderately coarse-textured, have a low shrink-swell potential (i.e., are nonexpansive), and are underlain by nonexpansive bedrock. Accordingly, it is unlikely that the proposed project would be adversely affected by expansive soils. If expansive soils are discovered during final design stages of the proposed project, proven geotechnical methods would be used to avoid or minimize the potential for expansive soils and sediments to damage project-related structures. The exact methods that would be used to address potential expansive soil issues are not known at this time, but likely would include the selective placement of expansive fill materials, the use of imported, non-expansive fill materials, and/or (iii) other methods of ground improvement.

This impact is common to all build alternatives and is considered less than significant. No mitigation is required.

## Impact 9.6 Potential Surface Fault Rupture

No known faults are located in or adjacent to the project corridor. Therefore, the potential for fault rupture to affect the proposed project is extremely low.

There would be no impact under any of the build alternatives. No mitigation is required.

## Impact 9.7 Potential Strong Seismic Ground Shaking and Liquefaction

The seismic ground shaking and liquefaction hazards associated with the project area are low (Peterson et al. 1996). In addition, the proposed project would be constructed in accordance with applicable building codes and standards to avoid or minimize damage from seismic ground shaking during and earthquake. Therefore, the potential for the proposed project to be adversely affected by seismic ground shaking or liquefaction is very low, and this impact is considered less than significant. No mitigation is required.

## Impact 9.8 Reduction of the Availability of a Known Locally or Regionally Important Mineral Resources

The project area is located far from, and would not adversely affect access to, any known potential mineral resource areas or active mineral resource extraction sites (Placer County 1994, Loyd 1995). Therefore, the proposed project would have no impact on the availability of known locally or regionally important mineral resources.

There would be no impact under any of the build alternatives. No mitigation is required.

# Mitigation Measures

This section details the mitigation measures identified for the project alternatives. Mitigation measures are identified as either of the following.

- *Proposed mitigation measures* are measures that the Placer County DPW, as project proponent, is either proposing as part of the project design or has agreed to implement.
- *Recommended mitigation measures* are measures that are identified in this environmental document but that the Placer County DPW has not chosen to implement, and which may be required by the Placer County Board of Supervisors if the project is approved.

## Proposed Mitigation Measures

### Mitigation Measure P9.1a: Prepare and Implement Improvement Plans, Specifications, and Cost Estimates

Placer County DPW shall prepare Improvement Plans, specifications, and cost estimates (per the requirements of Section II of the LDM. The plans shall show all conditions for the project as well as pertinent topographical features both on site and off site. All existing and proposed utilities and easements, on site and adjacent to the project, that may be affected by planned construction, shall be shown on the plans. All landscaping and irrigation facilities in the public right-of-way (or public easements), or landscaping within sight-distance areas at intersections, shall be included in the Improvement Plans. If the Design/Site Review process and/or DRC review is required as a condition of project approval, said review process shall be completed before submittal of Improvement Plans. Record drawings shall be prepared and signed by a California Registered Civil Engineer at Placer County DPW's expense before acceptance by the County of site improvements.

All proposed grading, drainage improvements, and vegetation and tree removal shall be shown on the Improvement Plans, and all work shall conform to provisions of the County Grading Ordinance (Chapter 29, Placer County Code) that are in effect at the time of submittal. No grading, clearing, or tree disturbance shall occur until the Improvement Plans are approved and all temporary construction fencing has been installed and inspected by a member of the DRC. All cut/fill slopes shall be at 2:1 (horizontal:vertical) unless a soils report supports a steeper slope and Placer County DPW concurs with said recommendation.

### Mitigation Measure P9.1b: Prepare and Implement an Erosion and Sediment Control Plan

Placer County DPW or a certified contractor working on behalf of Placer County shall prepare an erosion and sediment control plan before construction activities begin. The plan shall be prepared and approved before construction activities begin. The following measures shall be addressed in the plan.

1. All graded areas shall be covered with protective materials, such as mulch, or reseeded with adaptive plant species. The plan shall include details regarding seed material, fertilizer, and mulching.
2. Protocols for the handling of construction and maintenance materials, such as sanitary wastes and petroleum products, shall be developed to minimize the chance of spill and to provide prompt corrective action should spill occur.
3. All graded areas and soil piles shall be mounded to minimize erosion potential.
4. Drainage outfalls shall be designed and positioned to avoid erosion. Energy dissipators shall be installed where necessary.
5. Erosion control measures shall include best management practices (BMPs) to minimize water quality impacts; BMPs include filter berm, sandbag, or straw-bale barriers; siltation retention fences; vegetated buffer strips; vegetated swales; and spill containment provisions.
6. Temporary sediment catchment basins shall be constructed where necessary to prevent sediment from being transported to permanent detention basins and drainages. The locations and size of the temporary basins shall be shown in the erosion and sediment control plan.
7. Grading shall not be permitted after October 15 or before May 1. Grading may be permitted outside of these dates if the Director of DPW determines that such work can be completed before the onset of weather conditions that would prevent the work from being adequately winterized or completed.
8. Revegetation shall begin when the graded area has attained finished grade, but not later than October 1 (to ensure germination by October 30).

### Mitigation Measure P9.1c: Revegetate All Disturbed Areas

Placer County DPW or an approved contractor shall revegetate all disturbed areas. Revegetation undertaken between April 1 and October 1 shall include regular watering to ensure adequate growth. A winterization plan shall be provided with project Improvement Plans. It is Placer County DPW's responsibility to ensure proper installation and maintenance of erosion control/winterization during project construction. Placer County DPW shall provide for erosion control where roadside drainage is off of the pavement.

Placer County DPW shall maintain a letter of credit, surety bond, or cash deposit in the amount of 100% of an approved engineer's estimate for winterization and permanent erosion control work before Improvement Plan approval to guarantee protection against erosion and improper grading practices.

### Mitigation Measure P9.1d: Review Proposed Grading Plans

If, at any time during construction, a field review by County personnel indicates a significant deviation from the proposed grading shown on the Improvement Plans, specifically with regard to slope heights, slope ratios, erosion control, winterization, tree disturbance, and/or pad elevations and configurations, the plans shall be reviewed by the DRC and DPW for a determination of substantial conformance to the project approval conditions before any further work proceeds. Failure of the DRC and DPW to make a determination of substantial conformance may serve as grounds for the revocation/modification of the project approval by the appropriate hearing body.

**Mitigation Measure P9.1e: Remove Unsuitable Fill Material or Debris**
Any unsuitable fill or debris identified in the Geotechnical Engineering Report(s) (to be prepared and submitted with the Improvement Plans) or discovered during construction shall be hauled off site to an appropriately permitted facility. The applicant may propose to treat unsuitable soils to make them suitable.

## Recommended Mitigation Measures

There are no recommended earth resources mitigation measures.

**Table 9-2.** Earth Resources Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **EARTH RESOURCES** | | | | |
| Impact 9.1 Potential Construction-Related Soil Erosion and Sedimentation | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | S | S | S | S |
| Mitigation Measures | P9.1a: Prepare and Implement Improvement Plans, Specifications, and Cost Estimates<br>P9.1b: Prepare and Implement an Erosion and Sediment Control Plan<br>P9.1c: Revegetate All Disturbed Areas<br>P9.1d: Review Proposed Grading Plans<br>P9.1e: Remove Unsuitable Fill Material or Debris | P9.1a: Prepare and Implement Improvement Plans, Specifications, and Cost Estimates<br>P9.1b: Prepare and Implement an Erosion and Sediment Control Plan<br>P9.1c: Revegetate All Disturbed Areas<br>P9.1d: Review Proposed Grading Plans<br>P9.1e: Remove Unsuitable Fill Material or Debris | P9.1a: Prepare and Implement Improvement Plans, Specifications, and Cost Estimates<br>P9.1b: Prepare and Implement an Erosion and Sediment Control Plan<br>P9.1c: Revegetate All Disturbed Areas<br>P9.1d: Review Proposed Grading Plans<br>P9.1e: Remove Unsuitable Fill Material or Debris | P9.1a: Prepare and Implement Improvement Plans, Specifications, and Cost Estimates<br>P9.1b: Prepare and Implement an Erosion and Sediment Control Plan<br>P9.1c: Revegetate All Disturbed Areas<br>P9.1d: Review Proposed Grading Plans<br>P9.1e: Remove Unsuitable Fill Material or Debris |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 9.2 Destruction of Unique Geologic Features | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | NI | NI | NI | NI |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | NI | NI | NI | NI |
| Impact 9.3 Substantial Alteration of Existing Topography | | | | |
| Quantitative Comparison | NA | NA | NA | NA |

**Table 9-2.** Earth Resources Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 9.4 Potential Mass Wasting | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 9.5 Potentially Expansive Soils and Sediments | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 9.6 Potential Surface Fault Rupture | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | NI | NI | NI | NI |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | NI | NI | NI | NI |
| Impact 9.7 Potential Strong Seismic Ground Shaking and Liquefaction | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | LS | LS | LS | LS |

**Table 9-2.** Earth Resources Impact Summary Table



| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| Impact 9.8 Reduction of the Availability of a Known Locally or Regionally Important Mineral Resources | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | NI | NI | NI | NI |
| Mitigation Measures | None required | None required | None required | None required |
| Significance After Mitigation | NI | NI | NI | NI |

Key:

SU = Significant and unavoidable.
S = Significant.
PS = Potentially significant.
LS = Less than significant.
NI = No impact.
NA = Not applicable.

# Chapter 10
# Cultural Resources

This chapter discusses the cultural resource setting of the project area, the federal and state regulatory context for the proposed project, and the project's potential impacts on cultural resources.

*Cultural resource* is the term used to describe several different types of properties, including archaeological, architectural, and traditional cultural properties (TCPs). Archaeological sites include both prehistoric and historic deposits. Architectural properties include buildings, bridges, and infrastructure. TCPs include locations of importance to a particular group. TCPs are most often important to Native American groups because of the role the location has in traditional ceremonies or activities.

## Affected Environment

### Environmental Setting

The following sections present a brief summary of the cultural and historic background and setting to provide the context for the inventory and analysis of historical resources in the project area. A more detailed discussion of the environmental setting, inventory methods, and resource evaluation can be found in the cultural resources inventory report prepared by Jones & Stokes (2002).

#### Prehistoric and Ethnographic Context

The project area is located at the foot of the Sierra Nevada, on the edge of the Sacramento Valley. There is little archaeological evidence of human use of the area during the late and early Holocene eras (12,000 to 6000 B.C.); however, the limitations of the archaeological record do not necessarily mean that the area was not used. Most Pleistocene and Holocene sites are buried deeply in accumulated gravels and silts, or have eroded away. More archaeological information is available about people in the area beginning around 3000 B.C. Native Californians used the region between 3000 B.C. and the mid-1700s, broadening their subsistence strategy and developing more diverse technological strategies.

The indigenous people that occupied the project area at the time of European contact are called the Nisenan, or the Southern Maidu. The Nisenan language, together with the languages of the Maidu and Konkow, their northern neighbors, form the Maiduan language family, which is of Penutian linguistic stock (Shipley 1978). Ethnographic work with the Nisenan is summarized in Wilson and Towne (1978).

Early Nisenan contact with Europeans appears to have been limited to the southern reaches of their territory. Spanish expeditions began to cross Nisenan territory in the early 1800s. Unlike the valley Nisenan, the groups in the foothills remained relatively unaffected by the European presence until the discovery of gold at Coloma in 1848. In the 2 or 3 years after the discovery, Nisenan territory was overrun by settlers from all over the world. Gold seekers and the settlements that sprang up to support them were nearly fatal to the native inhabitants. The sudden onslaught of humanity brought disease and violent conflict to the indigenous groups who lived in the area. Survivors worked as wage laborers and domestic help and lived on the edges of foothill towns. Although nearly obliterated, the descendants of the Nisenan still live in Placer County today, and continue to rebuild their cultural identity.

## Historic Context

### Placer County

Placer County was formed in 1851 from parts of Sutter and Yuba Counties. The City of Auburn has been the only county seat. Settlement of the area around Folsom Reservoir by nonnative people did not begin until after gold discovery in 1848. The thousands of miners that swarmed up the American River and its tributaries established camps and towns at the sites of major discoveries. These communities along the North Fork American River in Placer County included Beals Bar, Horseshoe Bar, Smith's Bar, and Rattlesnake Bar (Kyle 1990).

Before the discovery of gold in 1848, there was only a rudimentary trail system in the Sierra Nevada. Most of the early, nonnative routes extended east to west across the range. These early trails provided travelers with ways across the imposing granite mass to the fertile central and coastal valleys. The establishment of hundreds of mining camps and towns provided the impetus to build improved roads and trails throughout the Sierra Nevada. The first trail to the Folsom region was the Coloma Road. Laid out by John Sutter in 1847–1848, it followed the south bank of the American River from Sutter's Fort to Sutter's sawmill in Coloma. During the Gold Rush era, this road was extended, with a branch leading to Mormon Island and Negro Hill. Other thoroughfares in the region included Auburn-Folsom Road, which connected those two settlements. After the gold deposits played out and the miners left the region, many of the roads and trails fell into disuse and disrepair. The main roads that survived, like Auburn-Folsom Road, were rerouted in the 1950s to accommodate Folsom Reservoir (Waechter et al. 1994).

During the first years of the Gold Rush, much of the mining took place at the river's bank or in the natural channel. As these surface deposits began play out, methods of gold extraction shifted to hard rock and hydraulic mining that required large amounts of water high above the natural river channels. To convey water to the mining sites, miners built long ditches and flumes that brought water by gravity. Because the construction and maintenance of these systems was costly, miners often formed joint stock companies to raise the necessary capital. One of the first was the Natoma Water and Mining Company, which set up a successful system of canals along the South Fork American River in 1851 (Waechter et al. 1994).

### North Fork Ditch Company

In spring 1854, the primary shareholder in the Natoma Water and Mining Company organized the American River Water and Mining Company to deliver water to miners on the North Fork American River. By the following December, the company began delivering water from its North Fork Ditch to Rattlesnake Bar. By 1857, the North Fork Ditch extended for about 39 kilometers (24 miles) from its diversion dam at Tamaroo Bar to a point opposite of the town of Folsom known as Big Gulch (Ashland). The main ditch, reservoirs, and more than 97 kilometers (60 miles) of lesser flumes and ditches supplied water to mining areas, with some water diverted for agricultural purposes. In 1899, the American River Water and Mining Company was reorganized as the North Fork Ditch Company. This company sold water primarily to the burgeoning agricultural areas of Fair Oaks and Orangevale. This operation lasted until 1909, when the American Canyon Water Company bought the North Fork Ditch Company. In 1954, ownership of the North Fork Ditch and the system passed to the San Juan Suburban Water Company (English pers. comm., Waechter et al. 1994).

### Rose Spring Ditch

The Rose Spring Ditch was built around 1900 as part of the North Fork Ditch Company system. It was built to provide agricultural and domestic water to south Placer County. When Folsom Dam was completed in 1956, part of the Rose Spring Ditch was inundated, requiring the Corps to construct new conveyance facilities. Pipeline work completed in the late 1960s eliminated the need for the Rose Spring Ditch as a conveyance system. Much of the old system has given way to development and has disappeared from view (English pers. comm.).

## Cultural Resources in the Study Area

### Methods and Results

To identify cultural resources in the project area, Jones & Stokes conducted a literature review and record search, historic map research, consultation with

Native Americans, and an intensive pedestrian survey. Additional information on the sources consulted is available in the cultural resources inventory report prepared by Jones & Stokes (2002).

The record search indicated that three previous studies have been conducted in the project area (Chavez 1980, Napoli 2002, Windmiller 2002). The North Fork Mining Ditch is the only known historic resource located in the project area.

Jones & Stokes professional archaeologists and a professional historian conducted an intensive pedestrian survey of the project area in May and June 2002. The project area was surveyed by walking parallel transects spaced 10–12 meters (33–39 feet) apart where access and visibility permitted. The area surveyed for the proposed project was a 30.5-meter (100-foot) corridor along both sides of Auburn-Folsom Road. In addition, a 30.5-meter (100-foot) section of Eureka Road, extending westward from the intersection of Auburn-Folsom Road, was surveyed. No archaeological resources were identified in the project area. Only one historic resource was identified in the project area that had the potential to be eligible for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). That single historic resource is the Rose Spring Ditch, described below.

## Rose Spring Ditch

The remaining segments of the Rose Spring Ditch are located in Placer County, near Folsom Lake. The historic alignment of the Rose Spring Ditch meanders from a point near the eastern terminus of Eureka Road southwesterly for about 305 meters (1,000 feet), where it crosses Auburn-Folsom Road. From there, the alignment extends southerly down the west side of Auburn-Folsom Road for about 213 meters (700 feet), where it turns southeast, back across the alignment of Auburn-Folsom Road. Currently, the ditch is unrecognizable along both of these segments.

From that point, the alignment continues in a southwesterly direction, roughly paralleling Auburn-Folsom Road for about 610 meters (2,000 feet) on a bench above the roadway. This section appears to be the most intact segment of remaining ditch in the alignment. The visible portions of the ditch are remarkably uniform along this section. In general, the ditch in this area is an earth-lined conduit that is roughly "U" shaped with steep side walls and a curving bottom. It is 1.8–2.4 meters (6–8 feet) deep, with a top width of 2.4–3.7 meters (8–12 feet) across and bottom width of 0.6–1.2 meters (2–4 feet). Berms on the downslope side of the ditch are about 3.7 meters (12 feet) high, with a crown of between 2.4 and 3.7 meters (8 and 12 feet) across. The channel of the ditch is overgrown with grasses and low bushes. Mature trees were observed growing in the channel or in the berm at several locations. The ditch was not carrying water when it was observed. At one location near the north end of the segment, the ditch is carried underground in a 61-centimeter-diameter (24-inch-diameter) cast iron pipe. The pipe opening features board-form concrete head and wing walls and a short concrete flume. The south end of the segment terminates in a similar arrangement that appears to carry the conduit under

Auburn-Folsom Road at a point about 152 meters (500 feet) north of the intersection with Lou Place. Although clearly visible on the east side of the road where it goes into the pipe, the Rose Spring Ditch is not recognizable where the alignment emerges on the west side of Auburn-Folsom Road.

From the point north of the Auburn-Folsom Road/Lou Place intersection, the historic alignment of the Rose Spring Ditch meanders in a southwesterly direction, following the contours of a low hill for several hundred meters (several thousand feet) to a point near Barton Road. From there, it extends nearly due south for about 305 meters (1,000 feet), where it turns northeast and extends along the northern edge of Baldwin Reservoir. The alignment continues in an easterly direction to a point where it crosses Auburn-Folsom Road yet again, north of the San Juan Water District headquarters building. It then turns south towards Hinkle Reservoir. This section of the alignment was examined at several locations; however, no recognizable ditch segment was visible.

The segment of the Rose Spring Ditch in the project area does not appear to meet the criteria for listing in either the NRHP or the CRHR, primarily because it lacks integrity to its period of significance. The period of significance for the Rose Spring Ditch is around 1900, which is the estimated period of design and initial completion of the ditch. This period of significance can also relate to the canal's association with corporate water conveyance in the northern Mother Lode region. Along much of it historic alignment, the ditch either no longer exists or is not recognizable as an artificial water conveyance feature. Because it lacks integrity to convey its period of significance, the Rose Spring Ditch does not appear to meet the criteria for listing in either the NRHP or the CRHR.

## Native American Consultation

On April 22, 2002, Jones & Stokes cultural resources staff contacted the Native American Heritage Commission (NAHC). A list of potentially interested Native American representatives and a search of the NAHC's sacred lands database was requested. NAHC responded with a list of seven Native American representatives of the area. The search of the sacred lands database did not identify any sacred sites in the project area.

Letters were sent to the seven Native American representatives, informing them of the project and requesting their input and concerns. As of October 2, 2002, there were no responses. Follow-up telephone calls were placed to ensure the receipt of the contact letters and to determine whether any of the representatives had any concerns. Follow-up telephone calls were made beginning on May 15, 2002. To date, no Native American representatives have expressed concerns regarding the proposed project.

# Regulatory Setting

## Federal

The proposed project would require approval by Reclamation for right-of-way takes. Any permitting federal agency is required to comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations (Title 36, Code of Federal Regulations [CFR], Part 800). Section 106 of the NHPA requires that, before beginning any undertaking, a federal agency must take into account the effects of the undertaking on historic properties and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on these actions. The Section 106 review process involves a four-step procedure:

- Initiate the Section 106 process by establishing the undertaking, developing a plan for public involvement, and identifying other consulting parties.
- Identify historic properties by determining the scope of efforts, identifying cultural resources, and evaluating their eligibility for inclusion in the NRHP.
- Assess adverse effects by applying the significance criteria (see "Criteria for Determining Significance," below) to effects on *historic properties* (resources that are eligible for inclusion in the NRHP).
- Resolve adverse effects by consulting with the State Historic Preservation Officer (SHPO) and other consulting agencies, including the Advisory Council if necessary, to develop an agreement that addresses the treatment of historic properties.

Specific regulations regarding compliance with Section 106 state that, although the tasks necessary to comply with Section 106 may be delegated to others, the federal agency (in this case, Reclamation) is ultimately responsible for ensuring that the Section 106 process is completed according to statute.

## State

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historic, architectural, archaeological, cultural, or scientific importance. Under the State CEQA statutes, an impact on a cultural resource is considered significant if a project would result in an effect that may change the significance of the resource (Public Resources Code, Section 21084.1). Demolition, replacement, substantial alteration, and relocation of historic properties are actions that would change the significance of an historic resource (Title 14, California Code of Regulations [CCR], Section 15064.5). Before the level of significance of impacts can be determined and appropriate mitigation measures developed, the significance of cultural resources must be determined. The following steps are normally taken in a cultural resources investigation to comply with CEQA.

- Identify cultural resources.
- Evaluate the significance of the cultural resources based on established thresholds of significance.
- Evaluate the effects of a project on all cultural resources.
- Develop and implement measures to mitigate the effects of the project on significant cultural resources.

Because the project also is located on nonfederal land in California, it is necessary to comply with state laws pertaining to the inadvertent discovery of human remains of Native American origin. The procedures that must be followed if burials of Native American origin are discovered on nonfederal land in California are described under "Impacts," below.

# Local

## Placer County General Plan

The Placer County General Plan Recreational and Cultural Resources section contains goals, policies, and implementation programs to protect historical and archaeological resources. The plan includes the following relevant policies.

**Policy 5.D.3.** The County shall solicit the views of the Native American Heritage Commission and/or the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

**Policy 5.D.7.** The County shall require that discretionary development projects are designed to avoid potential impacts to significant paleontological or cultural resources whenever possible. Unavoidable impacts, whenever possible, shall be reduced to a less than significant level and/or shall be mitigated by extracting maximum recoverable data. Determinations of impacts, significance, and mitigation shall be made by qualified archaeological (in consultation with recognized local Native American groups), historical, or paleontological consultants, depending on the type of resource in question.

## Granite Bay Community Plan

The Granite Bay Community Plan Cultural Resources Element contains the following applicable goals and policies.

**Goal 1.** Preserve and enhance all significant historic and archaeological sites and features.

**Policy 1.** Identify and protect from destruction and abuse all representative and unique historical and archaeological sites.

# Environmental Consequences

## Criteria for Determining Significance

### Federal

Under federal regulations, a project has an effect on a historic property when the undertaking could alter the characteristics of the property that may qualify the property for inclusion in the NRHP; such alterations include alteration of location, setting, or use. An undertaking may be considered to have an adverse effect on a historic property when the effect may diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects on historic properties include, but are not limited to,

- physical destruction or alteration of all or part of the property;
- isolation of the property from, or alteration of, the property's setting when that character contributes to the property's qualifications for listing in the NRHP;
- introduction of visual, audible, or atmospheric elements that are out of character with the property or that alter its setting;
- neglect of a property, resulting in its deterioration or destruction; or
- transfer, lease, or sale of the property (36 CFR 800.9).

### State

According to the State CEQA Guidelines (14 CCR 15064.5), a project with an effect that may cause a substantial adverse change in the significance of a historic resource is a project that may have a significant effect on the environment (14 CCR 15064.5[b]). CEQA further states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource would be materially impaired. Actions that would materially impair the significance of a historic resource are any actions that would demolish or adversely alter those physical characteristics of an historical resource that convey its historical significance and qualify it for inclusion in the CRHR or in a local register or survey that meet the requirements of Sections 5020.1(k) and 5024.1(g) of the Public Resources Code.

# Methods and Assumptions for the Impact Analysis

The evaluation of impacts on cultural resources is based on the cultural significance of potentially affected resources and on the severity of anticipated impacts. Criteria for assessing the degree of impact are described below.

# Impacts

Only one historic structure was located in the project area: the Rose Spring Ditch. The ditch does not appear to meet the criteria for listing in the NRHP or the CRHR. No significant archaeological resources were identified in the project area. Therefore, there are no significant cultural resources in the project area.

It is possible that unidentified, buried archaeological materials could be discovered during construction activities. The following section identifies potential impacts, as well as mitigation measures to reduce impacts to a less-than-significant level.

## Construction-Related Impacts

### Impact 10.1 Potential Damage to Previously Unidentified Buried Archaeological Resources

Buried archaeological resources that were not identified during field surveys could be inadvertently unearthed during ground-disturbing activities, which could result in the demolition or substantial damage of significant historical resources.

This impact is common to all alternatives and is considered potentially significant. Implementation of Mitigation Measure P10.1 would reduce this impact to a less-than-significant level.

### Impact 10.2 Potential Damage to Previously Unidentified Human Remains

According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052).

Buried human remains that were not identified during field surveys could be inadvertently unearthed during excavation activities, which could result in damage to these remains.

This impact is common to all alternatives and is considered potentially significant. Implementation of Mitigation Measure P10.2 would reduce this impact to a less-than-significant level.

# Mitigation Measures

This section details the mitigation measures identified for the project alternatives. Mitigation measures are identified as either of the following.

- *Proposed mitigation measures* are measures that the Placer County DPW, as project proponent, is either proposing as part of the project design or has agreed to implement.
- *Recommended mitigation measures* are measures that are identified in this environmental document but that the Placer County DPW has not chosen to implement, and which may be required by the Placer County Board of Supervisors if the project is approved.

## Proposed Mitigation Measures

### Mitigation Measure P10.1: Stop Work If Cultural Deposits Are Discovered During Ground-Disturbing Activities

If any archaeological artifacts, such as stone tools, or unusual amounts of shell or bone are uncovered during any construction activities, all work must stop immediately in the area (within 30.5 meters [100 feet] of the find) and a qualified archaeologist retained to evaluate the deposit. The Placer County Planning Department and Placer County Department of Museums must also be contacted for review of the archaeological find(s). Placer County DPW shall implement the recommended treatment measures, which typically include avoiding the site, capping the site with fill material, or implementing data recovery programs, such as excavation or detailed documentation.

If cultural resources are discovered during construction activities, the construction contractor, Placer County DPW, Placer County Department of Museums, and Reclamation (if on Reclamation property) shall verify that work has been halted until appropriate treatment measures are implemented. Concurrence shall be obtained from the applicable federal and/or county agency on any measures to be implemented before construction activities resume in the area of the find.

### Mitigation Measure P10.2: Comply with State/Federal Laws Pertaining to the Discovery of Human Remains

If human remains are discovered on private property during construction, the Placer County Coroner and NAHC must also be contacted. Work in the area may only proceed after authorization is granted by the Placer County Planning Department. A note to this effect shall be provided on the Improvement Plans for the project.

If human remains are discovered on Reclamation property during construction, the Reclamation archaeologist, the Placer County Coroner, and NAHC shall be contacted. Work in the area may proceed only after authorization is granted by Reclamation. All activity at such a site on Reclamation property must comply with the federal Native American Grave Protection and Repatriation Act (NAGPRA) (43 CFR Part 10).

If discovered human remains are of Native American origin, Placer County DPW and its contractors shall comply with state and federal laws relating to the disposition of Native American burials, which falls within the jurisdiction of NAHC (Public Resources Code, Section 5097). If human remains are discovered or recognized in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until

- the coroner of Placer County has been informed and has determined that no investigation of the cause of death is required and,
- if the remains are of Native American origin,
  - the descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98, or
  - NAHC is unable to identify a descendant or the descendant fails to make a recommendation within 24 hours after being notified by NAHC.

According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact NAHC.

## Recommended Mitigation Measures

There are no recommended cultural resources mitigation measures.

**Table 10-1.** Cultural Resources Impact Summary Table

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **CULTURAL RESOURCES** | | | | |
| Impact 10.1 Potential Damage to Previously Unidentified Buried Archaeological Resources | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | PS | PS | PS | PS |
| Mitigation Measures | P10.1: Stop Work If Cultural Deposits Are Discovered During Ground-Disturbing Activities | P10.1: Stop Work If Cultural Deposits Are Discovered During Ground-Disturbing Activities | P10.1: Stop Work If Cultural Deposits Are Discovered During Ground-Disturbing Activities | P10.1: Stop Work If Cultural Deposits Are Discovered During Ground-Disturbing Activities |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 10.2 Potential Damage to Previously Unidentified Human Remains | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | PS | PS | PS | PS |
| Mitigation Measures | P10.2: Comply with State/Federal Laws Pertaining to the Discovery of Human Remains | P10.2: Comply with State/Federal Laws Pertaining to the Discovery of Human Remains | P10.2: Comply with State/Federal Laws Pertaining to the Discovery of Human Remains | P10.2: Comply with State/Federal Laws Pertaining to the Discovery of Human Remains |
| Significance After Mitigation | LS | LS | LS | LS |

Key:

SU = Significant and unavoidable.

S = Significant.

PS = Potentially significant.

LS = Less than significant.

NI = No impact.

NA = Not applicable.

Chapter 11
# Trails

This chapter describes the setting and existing trails network in the project area that would be affected by the proposed project, as well as the planning and policy documents that govern the development of trails in the project area. Both bikeways and multiple-use trails are present in the project area. This section evaluates the potential impacts on these trails. The project area is part of the planning area for the Placer County General Plan and for the Granite Bay Community Plan.

## Affected Environment

### Environmental Setting

Auburn-Folsom Road is a primary connector route between the City of Auburn and the City of Folsom. The roadway begins in the City of Folsom, north of the Lake Natoma Crossing bridge over the American River, intersects with Folsom Dam Road, and continues to the City of Auburn in Placer County. South of Folsom Dam Road, Auburn-Folsom Road (known as Folsom-Auburn Road) is a four-lane roadway. The roadway has become a primary connector route for commuter traffic between the Roseville and Rocklin area and the Folsom/eastern Sacramento County area.

#### Bikeways

As part of the Granite Bay Community Plan, an extensive system of bikeways has been developed and adopted for the project area. Figure 11-1 shows existing and planned bikeways in the project area. Existing bikeways in the project area include a Class III bikeway along Auburn-Folsom Road. This bikeway is proposed to be upgraded to a Class II bikeway as part of the proposed project. The inclusion of a bicycle lane along Auburn-Folsom Road was listed in the Granite Bay Community Plan Recreation Element (Placer County 1987) as part of Priority Number 1 for trails under the Proposed Priority Plan for Acquisition and Development of Public Park Facilities. Bicycle trails were also listed in the plan as the highest demand for specific recreational facilities.

Figure 11-2 shows the three bikeway design criteria for the following three classes of bikeways.

- Class I bikeways are off-road rights-of-way for use primarily by bicycles and pedestrians. All motor vehicles are prohibited from using these trails, and crossflows by motor vehicles are minimized. These facilities often are called bike paths or bike trails. The Bikeway Master Plan for the plan area does not include any Class I bikeways.
- Class II bikeways are on-street, striped lanes that are dedicated to bicycles. Although use of these bikeways by motor vehicles and pedestrians is prohibited, vehicle parking and pedestrian and vehicle crossflows are permitted. These facilities often are called bike lanes.
- Class III bikeways are on-street routes designated by signs or other pavement markings. They share the right-of-way with motor vehicles and pedestrians. These facilities often are called bike routes.

## Multiple-Use Trails

The Granite Bay Community Plan identifies several existing and proposed multiple-use and equestrian trails. Sections of multiple-use trails are located along the edge of the Folsom Lake SRA. A multiple-use trail runs along the west side of Auburn-Folsom Road, at the southern end of the project area, from the County line to Oak Hill Drive. Improvements to the trail are proposed as part of the project. The improved trail would extend from the County line to Oak Hill Drive, but would be upgraded to meet County design standards.

There is an extensive trail network in the Folsom Lake SRA, to the east of the project area. This trail network runs parallel to the roadway within the boundaries of the Folsom Lake SRA. Trails include hiking, biking, and equestrian facilities.

# Regulatory Setting

## Local

### Placer County General Plan

The Placer County General plan contains the following policies for bikeway and trail development that relate to the project.

**Policy 3.D.1.** The County shall promote the development of a comprehensive and safe system of recreational and commuter bicycle routes that provides connections between the County's major employment and housing areas and between its existing and planned bikeways.

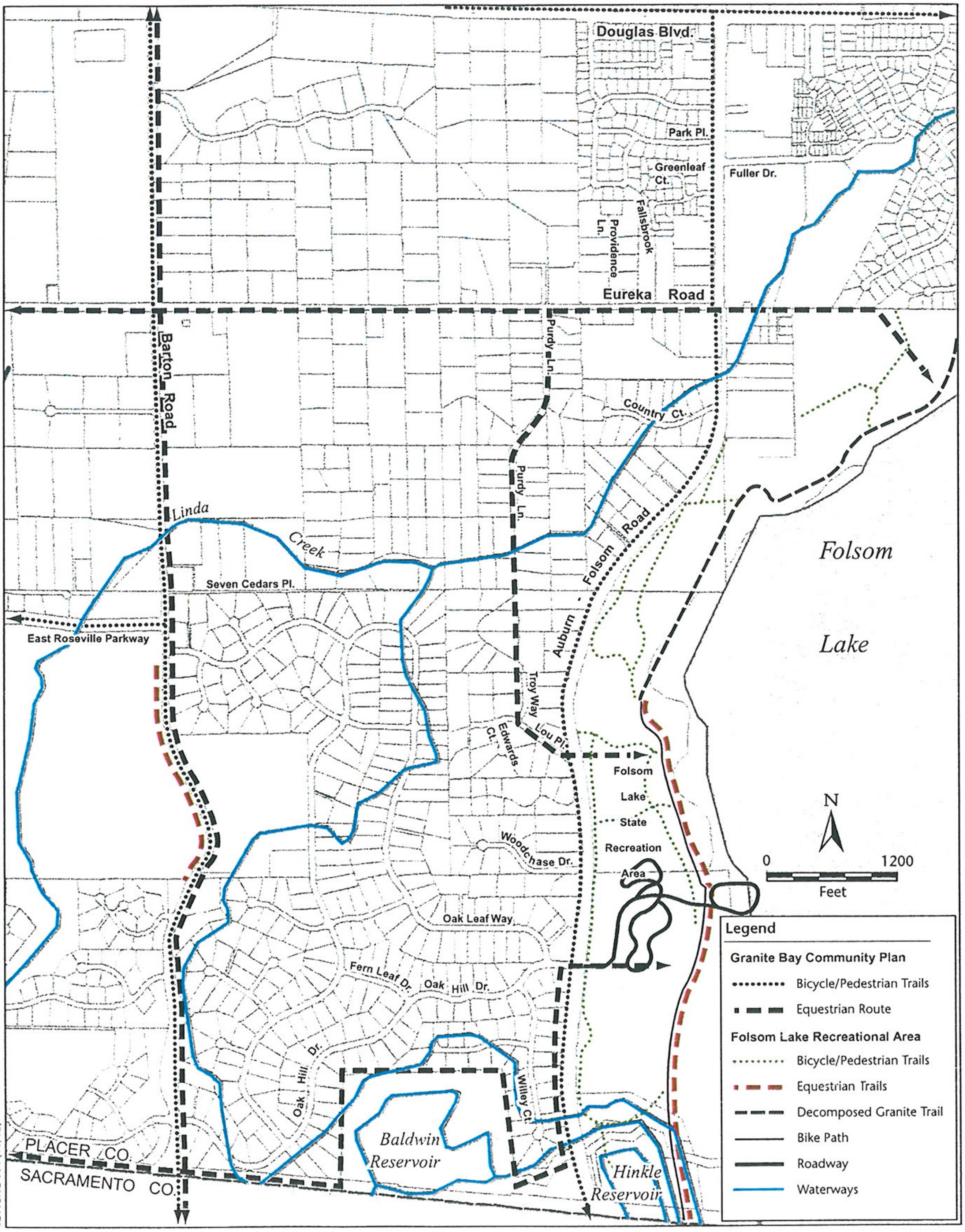



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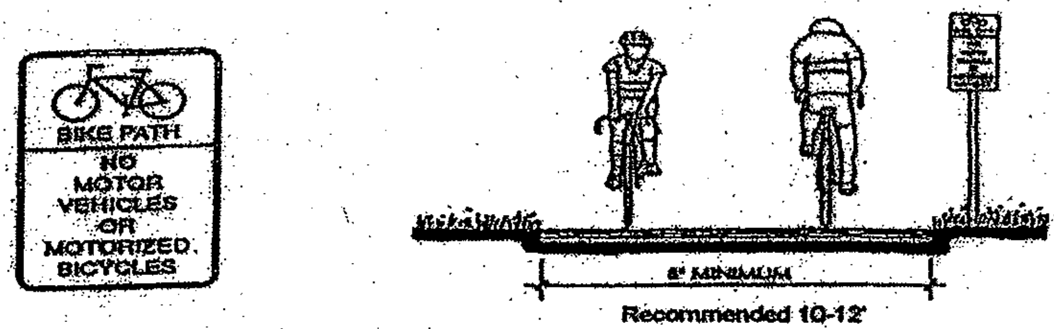
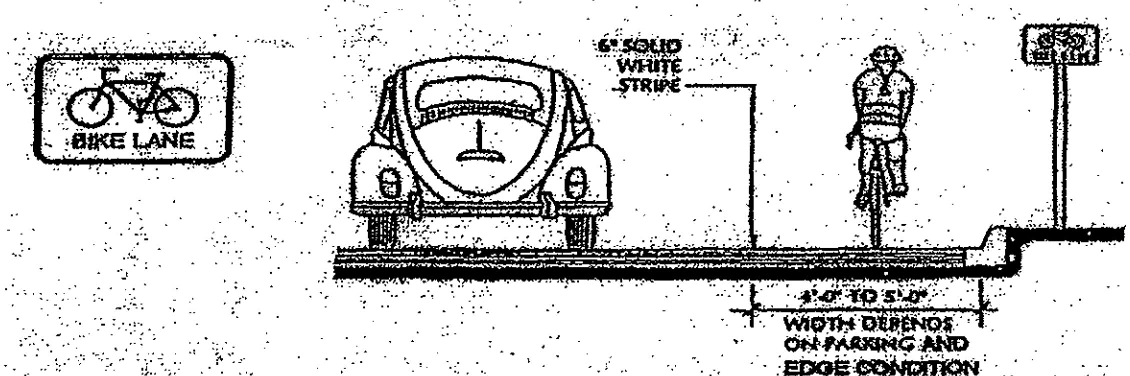
**Figure 11-1**
**Existing and Planned Trail Network**

### Class I Bike Path



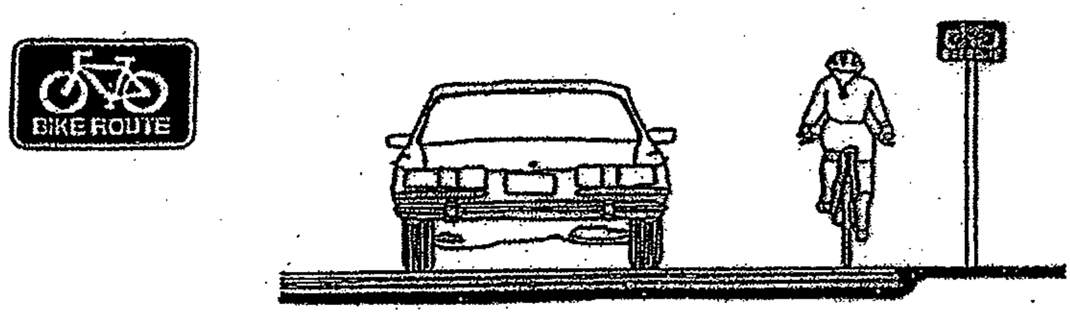

Class I Bikeway - Typically called a bike path or trail, it provides for bicycle travel on a paved right of way completely separated from any street or highway.

### Class II Bike Lane




Class II Bikeway - Referred to as a bike lane. Provides a striped and stenciled lane for one way travel on a street or highway. The right-of-way could be shared with vehicle parking.

### Class III Bike Route




Class III Bikeway - Referred to as a bike route. Provides for shared use with pedestrian or motor vehicle traffic and is identified only by signing.

Source: DKS Associates, Southeast Placer County Transportation Study

Jones & Stokes

**Figure 11-2**
**Bikeway Design Criteria**

**Policy 3.D.2.** The County shall work with neighboring jurisdictions to coordinate planning and development of the County's bikeways and multi-purpose trails with those of neighboring jurisdictions.

**Policy 5.C.1.** The County shall support the development of a countywide trail system designed to achieve the following objectives:

a) Provide safe, pleasant, and convenient travel by foot, horse, or bicycle;

b) Link residential areas, schools, community buildings, parks, and other community facilities within residential developments. Whenever possible, trails should connect to the countywide trail system, regional trails, and the trail or bikeways plans of cities;

c) Provide access to recreation areas, major waterways, and vista points;

d) Provide for multiple uses (i.e., pedestrian, equestrian, bicycle);

e) Use public utility corridors such as power transmission line easements, railroad rights-of-way, irrigation district easements, and roadways;

f) Whenever feasible, be designed to separate equestrian trails from cycling paths, and to separate trails from the roadway by the use of curbs, fences, landscape buffering, and/or spatial distance;

g) Connect commercial areas, major employment centers, institutional uses, public facilities, and recreational areas with residential areas; and

h) Protect sensitive open space and natural resources.

**Policy 5.C.3.** The County shall work with other public agencies to coordinate the development of equestrian, pedestrian, and bicycle trails.

## Granite Bay Community Plan

The Granite Bay Community Plan also includes policies related to the development of trails and bikeways. The specific transportation policies of the Transportation/Circulation Element that relate to trails and bikeways are listed below. The Granite Bay Community Plan is currently being revised. Revised versions of the plan and the circulation element are being considered by the County. Various elements of the existing plan may change as a result of this revision.

**Policy 14.** Trails and paths intended for general circulation shall provide reasonably direct and convenient routes of travel for potential users. Routes for trails and paths intended primarily for recreational use should enhance the recreation experience. Regional trails are needed for inter-community travel and to provide access to state and county parks. Regional trails should be located so that they serve the needs of the public and minimize any infringement on the privacy of local residents.

**Policy 15.** Regional bikeways should facilitate travel between communities and provide access to parks. Regional bikeways should be located on or along collector or arterial roads. County or state funds should be sought for construction of regional bikeways.

**Policy 16.** The local public path and trail system shall be linked with the existing private and regional systems and the road system.

**Policy 17.** Trails and paths may be located in the right-of-way of roads, in their own rights-of-way, or in recorded easements over private properties.

**Policy 18.** Paths for use by pedestrians generally shall be located in the right-of-way of public roads, rather than on easements between private properties.

**Policy 20.** Local bikeways shall primarily serve the needs of local residents by providing safe and enjoyable circulation within the community.

# Environmental Consequences

## Criteria for Determining Significance under CEQA

Appendix G of the State CEQA Guidelines and standard professional practice were used to determine whether the proposed project would have a significant environmental effect. The proposed project may have a significant effect on trails if it would conflict with the existing plans and policies related to trails or would potentially disrupt the use and connection of the existing trail network.

## Methods and Assumptions for the Impact Analysis

The following impact analysis is based on a review of relevant maps, local plans and policies, transportation elements, and professional judgement.

## Impacts

### Operation-Related Impacts

#### Impact 11.1 Inconsistency with Local Plans and Policies Related to the Development of Bikeways and Trails

The development plan for bikeways and multiple-use trails in the project area is identified in the Granite Bay Community Plan and in the Placer County General

Plan. The Granite Bay Community Plan requires that the trails be developed during the appropriate roadway improvement project. The specific planning policies are listed above under "Regulatory Setting." Failure to develop the trails and bikeways in accordance with the Granite Bay Community Plan and Placer County General Plan would be considered a significant impact. Placer County DPW is proposing to install an on-street Class II bikeway along Auburn-Folsom Road. This action is consistent with the planning policies. However, the plans also require the development of equestrian and pedestrian trails along Auburn-Folsom Road. Placer County DPW is not proposing any additional equestrian or pedestrian trails along the project corridor, and this is inconsistent with both the Placer County General Plan and the Granite Bay Community Plan. Placer County DPW is proposing to upgrade the multiple-use trail at the southern end of the project area. However, this action would not add any equestrian or pedestrian trails to the project area. This impact is common to all build alternatives and is considered significant. Mitigation Measures P11.1a, P11.1b, and P11.1c are included to ensure consistency with the applicable planning documents and to reduce this impact to a less-than-significant level.

### Impact 11.2 Disruption of Trail Use or Connectivity in the Existing Trail Network

The widening of Auburn-Folsom Road from two lanes to four could disrupt the connections of the existing trail network in the project area. Many of the trails and bikeways in the project area have been designed or planned to connect with the trails in Folsom Lake SRA. Disruption of these connections could substantially alter the use and value of the existing trails and bikeways. Increasing the roadway width from two lanes to four also would increase the hazard of crossing the roadway. However, authorized pedestrian crossings are limited to controlled intersections. To maintain the connectivity of the trail networks, Placer County DPW will provide pedestrian or bike crossings where trails or bikeways are currently planned to cross Auburn-Folsom Road. As noted under "Regulatory Setting," the Circulation Element of the Granite Bay Community Plan is currently being revised. The most recent draft of the plan eliminates some of the previously identified trails, such as the equestrian trail at Lou Place. In the event that this plan and Circulation Element are revised, some of the identified impacts may also change (most notably, the need for a signal at Lou Place).

This impact is common to all build alternatives and is considered less than significant. Mitigation Measure P11.2 is provided to ensure connectivity.

## Mitigation Measures

This section details the mitigation measures identified for the project alternatives. Mitigation measures are identified as either of the following.

- *Proposed mitigation measures* are measures that the Placer County DPW, as project proponent, is either proposing as part of the project design or has agreed to implement.
- *Recommended mitigation measures* are measures that are identified in this environmental document but that the Placer County DPW has not chosen to implement, and which may be required by the Placer County Board of Supervisors if the project is approved.

## Proposed Mitigation Measures

### Mitigation Measure P11.1a: Provide Class II Bikeways

Placer County DPW shall provide Class II bikeways along Auburn-Folsom Road pursuant to the Placer County Bikeways Master Plan. The location, width, alignment, and surfacing of the bikeways shall be in accordance with the bikeway design standards listed in the Placer County General Plan.

### Mitigation Measure P11.1b: Improve Equestrian Trail in Accordance with Standard County Design Conditions

Placer County DPW shall install a multiple-use (equestrian/pedestrian) trail as part of the project improvement, as described below.

1. Placer County DPW shall construct/improve a 4.6-meter-wide (15-foot-wide) (or as otherwise approved by the Parks Division) meandering public trail easement along the western side of Auburn-Folsom Road, from the County line to Oak Hill Drive and within the landscape buffer.
2. The trail shall be constructed of decomposed granite, unless otherwise approved by the Parks Division. A trail tread and drainage appurtenances shall be installed and clearing, seeding, and planting shall be implemented as necessary for erosion control.
3. The trail tread shall be located as far from the edge of pavement of the adjoining street right-of-way as possible.

### Mitigation Measure P11.2: Install a Traffic Signal at the Auburn-Folsom Road/Lou Place Intersection

Placer County DPW shall install a traffic signal at the Auburn-Folsom Road/Lou Place intersection or shall provide equal or better means of trail connectivity at other locations. In the event that the Circulation Element of the Granite Bay Community Plan is revised and the equestrian trail at Lou Place is eliminated, this mitigation measure would no longer be necessary.

## Recommended Mitigation Measures

There are no recommended mitigation measures for trails.

**Table 11-1.** Trails Impact Summary Table

| | Alt. 1: Widening to the West | Alt. 2: Widening to the East | Alt. 3: Widening Equally on Both Sides | Alt. 4: County DPW–Preferred |
|---|---|---|---|---|
| **TRAILS** | | | | |
| Impact 11.1 Inconsistency with Local Plans and Policies Related to the Development of Bikeways and Trails | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | P11.1a: Provide Class II Bikeways<br>P11.1b: Improve Equestrian Trail in Accordance with Standard County Design Conditions | P11.1a: Provide Class II Bikeways<br>P11.1b: Improve Equestrian Trail in Accordance with Standard County Design Conditions | P11.1a: Provide Class II Bikeways<br>P11.1b: Improve Equestrian Trail in Accordance with Standard County Design Conditions | P11.1a: Provide Class II Bikeways<br>P11.1b: Improve Equestrian Trail in Accordance with Standard County Design Conditions |
| Significance After Mitigation | LS | LS | LS | LS |
| Impact 11.2 Disruption of Trail Use or Connectivity in the Existing Trail Network | | | | |
| Quantitative Comparison | NA | NA | NA | NA |
| Significance Before Mitigation | LS | LS | LS | LS |
| Mitigation Measures | P11.2: Install a Traffic Signal at the Auburn-Folsom Road/Lou Place Intersection | P11.2: Install a Traffic Signal at the Auburn-Folsom Road/Lou Place Intersection | P11.2: Install a Traffic Signal at the Auburn-Folsom Road/Lou Place Intersection | P11.2: Install a Traffic Signal at the Auburn-Folsom Road/Lou Place Intersection |
| Significance After Mitigation | LS | LS | LS | LS |

Key:

SU = Significant and unavoidable.
S = Significant.
PS = Potentially significant.
LS = Less than significant.
NI = No impact.
NA = Not applicable.

Chapter 12

# Cumulative and Growth-Inducing Impacts

## Introduction

This chapter discusses the cumulative and growth-inducing impacts of the proposed project. A cumulative impact is defined as the overall impact resulting from the incremental impact of a proposed project when combined with the impacts of other past, present, and reasonably foreseeable future projects (State CEQA Guidelines, Section 15355). Growth-inducing impacts are the effects of a project that encourage or facilitate growth or development.

## CEQA Requirements

### Cumulative Impacts

The State CEQA Guidelines require a reasonable analysis of the significant cumulative impacts of a proposed project (Section 15130). The cumulative impact analysis may be less detailed than the analysis of the project's individual effect.

A cumulative impact is created as a result of the combination of the project evaluated in an EIR with other projects causing related impacts. Cumulative impacts can result from individually minor, but collectively significant, projects occurring over a period of time (State CEQA Guidelines, Section 15355).

An EIR does not need to discuss impacts that do not result in part from the project it evaluates, but it is required discuss the cumulative impacts of a project when the project's incremental effect is cumulatively considerable (State CEQA Guidelines, Section 15130). When a lead agency determines that the incremental effect is not cumulatively considerable, the agency does not need to consider that impact significant, but it must briefly describe its basis for that determination.

Cumulative impacts may be discussed in the form of either:

- a list of past, present, or reasonably foreseeable probable future projects producing related cumulative impacts; or

- a summary of projections contained in an adopted general plan or related planning document, or in a prior adopted or certified environmental document.

## Growth-Inducing Impacts

Section 15126.2 of the State CEQA Guidelines provides guidance for analyzing the growth-inducing impacts of a project. The growth inducement analysis should discuss ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Projects that would remove obstacles to population growth could lead to increased demand for existing community service facilities, so consideration must be given to this impact. Growth in an area is not necessarily considered beneficial, detrimental, or of little significance to the environment.

# Cumulative Impact Assessment

The proposed project was identified in 1992 as one out of fourteen planned Road Network Improvements under the Capital Improvement Project (CIP) program in the Granite Bay Community Plan. The 1994 Placer County General Plan includes the proposed project under the Circulation Plan. The cumulative impacts of the proposed project have been evaluated using the plan approach; both the impacts of the proposed project and buildout of the general plan and community plan are evaluated.

This analysis determines that the proposed project would not result in any increase in the significance of impacts over what would occur with implementation of the general plan or community plan. The cumulative impacts associated with the proposed project are consistent with those projected in the Placer County General Plan and Granite Bay Community Plan, and have been analyzed in the general plan EIR.

CEQA also requires that the cumulative impact analysis consider whether impacts that are individually less than significant may make a cumulatively considerable contribution to a significant effect.

The cumulative impacts of the project related to traffic, air, and noise have been analyzed using a project-specific analysis that allows for quantification of the cumulative increases in traffic, air pollution, and noise levels. The cumulative analysis for traffic found that four intersections would operate at LOS D or worse. Although these intersections were found to operate deficiently, the delay was decreased when compared to the cumulative no-project condition. The cumulative analysis for air quality and noise found that the proposed project would not significantly contribute to cumulative projected changes in air quality or noise. As with traffic, cumulative noise impacts decreased with project implementation when compared to the no-project condition. Therefore, cumulative impacts are considered less than significant

## Conclusion

The proposed project would contribute to cumulative impacts on air quality, noise, and traffic. However, the cumulative increases related to traffic, air quality, and noise were determined to be less than significant. The cumulative impacts on other resources are consistent with the cumulative impacts identified for the implementation of the Placer County General Plan and the Granite Bay Community Plan.

# Growth-Inducing Impact Assessment

Pursuant to Section 15126 (g) of State CEQA Guidelines, an EIR must address whether a project will directly or indirectly foster growth. Section 15126 (g) reads as follows:

> [An EIR shall] discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities so consideration must be given to this impact. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

The proposed project does not directly induce the construction of additional housing in the surrounding environment. The project does not include any housing construction.

Approval of the proposed project would improve safety along Placer County's Auburn-Folsom Road corridor, improve traffic conditions for the Granite Bay community, and accommodate expected increases in local and regional traffic volumes on Auburn-Folsom Road.

The improvement of roadway facilities does not in itself facilitate growth or necessarily induce other activities that may significantly affect the environment. In contrast, extending a new sewer or water line or constructing a new road often is considered growth facilitating or indirectly growth inducing because the absence of a water or sewer line or road access is a clear physical obstacle to growth. Placer County is required to provide adequate county-designated roadway facilities within the county's jurisdiction, whether or not the proposed project is constructed.

However, the project improves roadway facilities, which will serve residents and businesses in the community. Improved facilities may affect the decisions of relocating homebuyers and businesses. This effect may result in increased relocations to the area and increased growth for the area. However, the quality of roadway facilities is only one factor in such considerations. Other factors affect the magnitude, timing, and type of economic and population growth. These factors include local government planning, economic climate, quality of life, and availability of public services and natural resources.

Approval of the proposed project would improve safety along Placer County's Auburn-Folsom Road corridor, improve traffic conditions for the Granite Bay community, and accommodate expected increases in local and regional traffic volumes on Auburn-Folsom Road. Adequate roadway facilities are a component of continued economic and regional growth. However, the effect on growth of changes in roadway facilities is anticipated to be minor. No direct or indirect growth-inducing impacts or growth-facilitating impacts are anticipated to be caused by the proposed project.

# Conclusion

The proposed project does not eliminate obstacles to growth because Placer County is required to provide adequate county roadway facilities for all residents and businesses, and to accommodate expected increases in local and regional traffic volumes within the county's jurisdiction. The proposed project fulfills part of this objective. Although the improvement of roadway facilities in the area would increase the overall appeal of the area to residential and commercial development, the effect would be minor and would constitute only a small part of the relocation decision. Therefore, the proposed project is not anticipated to result in direct or indirect growth-inducing impacts or growth-facilitating impacts.

Chapter 13

# Consultation, Coordination, and Integration with Other Federal Requirements

Placer County, in cooperation with Reclamation, has coordinated the environmental review of the proposed project with appropriate federal, state, and local agencies, concerned organizations, and interested citizens, as described below.

## Notice of Preparation of an EA/EIR

In April 2002, in compliance with CEQA, Placer County published an NOP of an EA/EIR. The NOP included a detailed project description and an initial study. The NOP was distributed to federal, state, and local agencies and interested members of the public for a 30-day review. Written comments were received on the NOP and are on file at the Placer County Planning Department.

## Responsible Agencies

CEQA defines a responsible agency as "a public agency which proposes to carry out or approve a project for which a lead agency is preparing or has prepared an EIR." Placer County is the state lead agency for the proposed project, and the following agencies have been identified as responsible agencies:

- California Department of Parks and Recreation—issues related to Folsom Lake SRA
- DFG—streambed alteration agreement under Section 1601 of the California Fish and Game Code
- Central Valley RWQCB—water quality certification under Section 401 of the Clean Water Act
- PCFCWCD—modification or changes related to Linda Creek and culverts along the project alignment

# Permits and Required Coordination

In addition to the permits identified above, the following permit is required:

- Corps permit under Section 404 of the Clean Water Act—the Corps has jurisdiction over waters of the United States, including wetlands. Placer County has prepared a preliminary wetland delineation report and will submit it to the Corps for verification.

Coordination also has been conducted with the following agencies:

- USFWS—USFWS has jurisdiction for conserving wildlife, fisheries, and plants through the Fish and Wildlife Coordination Act, the MBTA, and ESA. Placer County coordinated the analysis in the EA/Draft EIR with USFWS. The Reclamation will submit a biological assessment to USFWS that addresses potential impacts on VELB. The Reclamation will request initiation of a formal consultation under Section 7 of ESA regarding the proposed project.
- State Office of Historic Preservation—Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on historic properties that are listed or eligible for listing in the NRHP. Placer County has completed a cultural resources analysis of the proposed project, and no historic properties were identified within the area of potential effects. The Reclamation will submit cultural documentation to the State Office of Historic Preservation and request concurrence that responsibilities defined under Section 106 of the NHPA have been met.
- PCAPCD—PCAPCD has jurisdiction over air quality issues in Placer County. Analysis of the potential air quality impacts of the proposed project has been coordinated with the district.
- PCFCWCD—PCFCWCD has jurisdiction over drainage and flood control issues in Placer County. Analysis of the hydraulic impacts of the proposed project has been coordinated with the district.

# Public Outreach Program

Placer County has an extensive public outreach effort for the project that includes public workshops/public meetings, meetings with citizen groups, newsletters, press releases, and several websites on the Internet.

## Public Workshops/Public Meetings

Public workshops/public meetings have been held on the following dates:

- November 6, 2001—Project introduction and introduction to the three basic alternatives
- February 26, 2002—Presentation of the three revised alternatives and environmental review, and a scoping meeting on the NOP of an EA/EIR

# Meetings with Citizen Groups

As described below, Placer County DPW staff has met with several citizen groups to discuss the project.

## Granite Bay Municipal Advisory Council

- May 2, 2001—Project introduction, including distribution of the April 23, 2001, newsletter
- October 2, 2001—Announcement of the upcoming public workshop (November 6, 2001)
- November 7, 2001—Discussion of the results of the November 6, 2001, public workshop and question-and-answer session
- January 14, 2002—Discussion of the project with Alan Telford, Chairman of the Granite Bay Municipal Advisory Council (MAC) Transportation Committee
- February 26, 2002—Announcement of the upcoming public workshop (February 26, 2002) and progress report

## Other Citizen Groups

- November 13, 2001—Folsom Lake Estates Homeowners Association; presentation of the information that was presented at the November 6, 2001, public workshop
- November 14, 2001—Discussion of the project at Supervisor Gaines' "Coffee" community meeting
- February 19, 2002—Meeting with the newly formed "Friends of the Auburn-Folsom Road" citizens group

# Newsletters

More than 500 copies of each project newsletter were mailed or emailed. The distribution list for newsletters is made up of primarily Granite Bay residents who live near the project corridor. The list also includes several community associations, personnel from various public agencies, the Granite Bay MAC, the

Placer County Board of Supervisors, and local business people who have an interest in the project. Three newsletters have been mailed out to date:

- April 23, 2001—Project introduction
- October 12, 2001—Public workshop announcement for the November 6, 2001, public workshop
- January 30, 2002—Public workshop announcement for the February 26, 2002, public workshop

# Press Releases

- May 22, 2001—Project introduction
- October 29, 2001—Public workshop announcement for the November 6, 2001, public workshop
- February 14, 2002—Public workshop announcement for the February 26, 2002, public workshop

# Internet

Several web pages have been created for the Auburn-Folsom Road Four-Lane Widening Project as part of the Placer County website. A project description, background information, a project location map, schedule, and a news page are included on the website. All of the project-related newsletters and press releases have been posted, in addition to information about the City of Folsom's Folsom-Auburn Road widening project. The NOP of an EA/EIR, initial study, and environmental impact assessment questionnaire have also been posted on the website. The Granite Bay MAC maintains an extensive web page that includes a link to the Placer County Auburn-Folsom Road Widening Project web pages. The Granite Bay MAC has also posted synopses of all of the project newsletters and the project discussions held at the Granite Bay MAC meetings.

Chapter 14
# List of Preparers

## Placer County

- **Charlie Ebeling, P.E.** Project Manager. Associate Engineer, Placer County Department of Public Works. B.S., 1996, Civil Engineering, California State University, Chico. California licensed Traffic Engineer TR 2149. Six years of experience in civil and traffic engineering specializing in design and project management of highway and bridge transportation projects.
- **Edward G. McCarthy, P.E.** Senior Civil Engineer, Transportation Division, Placer County Department of Public Works. B.S., 1977, Transportation Engineering, California Polytechnic State University, San Luis Obispo. California licensed Civil Engineer C 31046. Twenty-five years of experience in civil engineer and public works program management.

## Jones & Stokes

- **Kim Erickson.** Project Manager. B.S., 1980, environmental planning and management, University of California, Davis. Twenty years of experience preparing environmental documents.
- **Lynn Finley.** Project Coordinator. B.S., 1995, Environmental Engineering, Montana Tech, University of Montana, Butte. Seven years of experience in analysis and management of environmental studies, with a focus on air quality, hazardous materials, energy, and industrial projects; environmental regulatory analysis and compliance audits and assistance; and point-, area-, and mobile source–air quality impact studies.
- **Angela Alcala.** Wildlife Biologist. B.S., 1999, wildlife, fisheries, and conservation biology, University of California, Davis. Three years of experience conducting surveys for wildlife species and habitats, assessing impacts on special-status wildlife species, and monitoring projects for regulatory compliance.
- **Barry Scott.** Senior Archaeologist. M.S., 1988, anthropology, California State University, Sacramento. B.A., 1983, anthropology, California State University, Sacramento. Twenty years of experience managing cultural resource investigations for large, linear projects involving coordination with multiple federal and state agencies and Native American groups to facilitate

compliance with Section 106 of NHPA, NEPA, CEQA, and other state, federal, and local requirements.

- **Chris Elliott.** Landscape Architect. B.S., 1994, landscape architecture, University of California, Davis. Eight years of experience in visual resources analysis, arborist services, habitat design, and corridor management planning.
- **Christian Fish.** Cultural Resource Specialist. B.A., 1995, art (art history emphasis), California State University, Northridge. Seven years of experience in archaeological site testing, data recovery, survey, inventory and evaluation, and document preparation.
- **Dave Buehler.** Senior Environmental Scientist and Specialist in Environmental Acoustics and Vibration. B.S., 1980, civil engineering, California State University, Sacramento. Conducts special studies and prepares assessments for CEQA documentation to evaluate the effects of environmental noise and vibration. Extensive experience applying methodology and criteria recommended by FHWA to evaluate traffic noise impacts and mitigation.
- **Eric Berntsen.** Water Resource Specialist. M.S., 2000, environmental science (water resource management), New York State University, College of Environmental Science and Forestry, Syracuse. B.A., 1992, environmental studies (biology concentration), University of Pennsylvania, Philadelphia. Two years of experience in erosion and sediment control planning and stormwater management, hydrologic modeling and habitat restoration, and environmental impact assessment.
- **Joel Butterworth.** Senior Earth Scientist. M.S., 1987, geography (minor in soil science), Oregon State University, Corvallis. B.A., 1985, geography, University of California, Santa Barbara. Fifteen years of experience in habitat restoration, geology and soils impact assessment, erosion and sediment control planning, and watershed management.
- **Kevin Lee.** Air Quality Specialist. M.S., 1999, civil and environmental engineering, University of California, Davis. B.S.1997, , civil engineering, University of Illinois, Urbana-Champaign. Experience in preparation of CEQA environmental documentation and modeling of mobile source emissions.
- **Shannon Hatcher.** Air Quality and Noise Specialist. B.S., 2000, environmental science, Oregon State University, Corvallis. B.S., 2000, environmental health and safety, Oregon State University, Corvallis. Experience in environmental impact analysis, report preparation, and environmental noise monitoring.
- **Simon Page.** Environmental Specialist. B.S., 1987, soil and water science, University of California, Davis. Fifteen years of experience in CEQA/NEPA compliance and impact analysis, water resources studies, hydrologic and hydraulic modeling, restoration planning and impact analysis, environmental documentation, and project coordination.

- **Susan Bushnell.** Senior Plant Ecologist. B.S., 1990, plant ecology, University of California, Berkeley. More than 10 years of experience preparing CEQA/NEPA compliance documents; conducting biological studies, impact assessments, and botanical and wetland resource studies; and implementing mitigation and monitoring plans for large-scale projects.
- **Teresa O'Brien.** Cultural Resource Specialist. B.A., 1986, anthropology, California State University, Sacramento. Fourteen years of experience directing cultural resource surveys, mapping sites, conducting subsurface archaeological tests and artifact analyses, monitoring construction/mitigation, preparing reports, and coordinating with government and local agencies.
- **Tim Rimpo.** Senior Air Quality Scientist. M.S., 1981, economics (natural resources and environmental specialization), Colorado State University, Fort Collins. B.A., 1978, economics, University of Virginia, Charlottesville. Specializes in point-, area-, and mobile-source air quality impact studies; air quality conformity analyses; air quality dispersion modeling; air quality permitting support; analyses of air quality regulations; emission inventory development; air quality management plans; and air quality software development.
- **Heather Ogston.** Editor. B.A., 1998, archaeology and philosophy, Kenyon College, Gambier, Ohio. Three years of experience reviewing and editing environmental documents.
- **Jody Job.** Publication Specialist. Twenty years of experience preparing documents for publication.

Chapter 15
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